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INDEX TO VOLUME XXV

PAGE
ABDOMINAL section treatment of pelvic pus cases by 758
Abscess appendicular a post mortem examination in a case of 121
appendicular the location of the 1085
Actinomycosis three new cases of 81
Accident to president 121
Acne treatment of 1011
Adler Dr Lewis H Extirpation and colotomy in cases of cancer of the rectum 91
Addison's disease pathogeny of 407
[illegible] 319
Africa a young medical explorer of 1011
Agricultural chemists association of 170
Albany Medical College alumni association of greater New York 10[illegible]
Alcohol by synthesis 291
should it be used in the treatment of disease? 401
the influence of upon urinary toxicity and its relation to the medical use of alcohol 18[illegible]
does it ever act as food or as a generator of any natural force in the living body? 4[illegible]2
in the grippe 517
Alcoholic intolerance and predispositions 1[illegible]
problem some factors in the solution of the 521
Alcoholism in France 1[illegible]2
fatality of surgical operations in 519
French degeneracy from—absinthe condemned 311
Albuminuric retinitis prognostic significance of 735
Allen Dr C B The Michigan practice of medicine act 37[illegible]
medical library the 685
Allport Dr Frank A modification of mastoid retractor 715
Dr Frank An aural masseur 866
Aluminum corset the 1140
Amblyopia in recruits 506
American Medical Colleges association of 680
live stock another attack on 611
Public Health Association 507
Association of Obstetricians and Gynecologists 506
Medical Association the, and parliamentary law 637
Obstetricians and gynecologists, the society of 540
Medical College Association 121
medicine, 'chief ornament' in Edinburgh 465
Orthopedic Association 468
medicine 776
Americans did not blame the 121
Amicrobic suppuration 512
Anatomic nomenclature the new 256 1007
nomenclature universal 217
Anatomy law new in Wisconsin 596
Anchylostoma anemia in the vicinity of Naples 210
Anderson Dr Edward Colitis in infancy and childhood 610
Dr A B A case of sepsis simulating disease of the brain 291
Andrews Dr Edmund Introductory address 733
Dr Edmund The diseases death and autopsy of Napoleon I 1081
Anemia pernicious 586 1110
Anesthesia in ophthalmic practice, the infiltration method of 848
practical points in, for plastic operations about the eye 6[illegible]4
semi centenary of the discovery of 1007
Another prevaricator 427
Anthrax in a New Jersey dairy 465
septicemia in man 1058
Antifebrin phenacetin and antipyrin new method of differentiating 958
Antitoxin, clinical experience with in private and hospital practice in the treatment of diphtheria 560
bacteriologic examinations of nine cases of diphtheria treated with 1150
is vaccine virus 829
is diphtheria doomed by the discovery of 241
Anti American alliance serum 642
Anti streptococcic serum the 84

PAGE
Anti vaccinationists not popular [illegible]1
Antiphthisin in tubercular affections of children 601
Antistreptococcin 725
Antivenin the latest contribution to serum therapy 15
Antrum of Highmore operative treatment of purulent disease of the 891
Appendicitis 16 816
on some difficulties in reference to the early surgical treatment of 1132
when shall we operate in cases of 1130
Appendicular abscess the location of the 1085
Arman Dr Robert I 81
Army changes 42 86 128 172 211 258 300 341 428 470 514 556 600 611, 658 7[illegible]2 781 844 922 972, 1014 10[illegible]1 1111
emergency rations for the 85
medical school the 878
Arsenic subcutaneous use of 418
Aseptic wounds the surgical technique of 232
Asiatic cholera the prevention of 445
Ashmead Dr Albert S The Ohio cases not leprosy 872
Dr A S Serum therapy in leprosy 1008
Association the, and its Journal abroad 114
Associations and their journals 830
Astigmatism latent 853
Atkinson Dr W B It was J Marion Sims 82
medical society register the 211
Atlanta meeting, the 1055
Atresia of the uterine canal after the menopause a contribution to the study of 987
Atrophy progressive muscular the pathologic anatomy of 827
Audi tertiam partem 81
Aural anatomy, the importance of in routine clinical work 885
masseur an 866
Axtell Dr E R The medico legal examination of the red stains found on the clothes of Chas Ford, with a plea for the use of the camera lucida in the microscopic examination of blood stains 189
Ayers Dr S C Lymphangioma cavernosum of the orbit 798

ASSOCIATION NEWS

Amendment to the Constitution 1116
Department and Secretary of Public Health 772
Meeting of the Trustees 916
Report of the Editor to the Board of Trustees 917
Rush Monument 546 1140
Section on Ophthalmology—Report of the Secretary 680
Surgical Section, papers for the 1147
Section on Surgery and Anatomy 86
Treasurer's Notice 829

BACTERIOLOGY and the farmer 1059
Bacteriologic examinations in North Carolina 290
Bacteriologists an international convention of 35
Bacterial examinations of the throat in fevers other than diphtheria 686
Baelz's disease a case of 40
Baker Dr Albert Rufus Incipient cataract 640
Baldy Dr J M Hysterectomy for suppurative disease of the pelvic organs 259
Bannister Dr H M The moral treatment of epilepsy 1021
Barber Dr C F My experience with solanum carolinense in the treatment of epilepsy 1023
Barlow Dr C The country doctor 167
Bath the in modern medicine 486
Batten Dr J M Tuberculosis 952
Battey Dr Robert the health of 637
Basle anti alcohol congress the 636
Beck Dr Carl Skin graft incision to prevent scars 370
Dr Carl On some points in regard to sterilization in private dwellings with the demonstration of some new aseptic appliances 134
Dr Carl On some difficulties in reference to the early surgical treatment of appendicitis 1132
Becker Dr B Ectopic gestation 822

PAGE
Bell Clark Sociology and criminology 734
Bellevue hospital 409
Belt Dr F Oliver Prognostic significance of albuminuric retinitis 735
Berdoe Dr Edward [illegible]
Berlin oekonomierath's diary a 874
Bernstein, Dr E J Report on three cases of paralysis of the superior rectus and some remarks 780
Bettman Dr Boerne Simple cataract extraction and some thoughts on prolapsus of the iris 10[illegible]
Bichlorid accidental administration of 12[illegible]
Bicycle fatigue utilized 880
physics of the 385
face the 512
Bicyclists advice to 683
Biliary calculi evacuation of the by the stomach 1011
Billings Dr John S, U S Army 468
Biographical sketch, a new 170
Births and deaths, physicians alone to report 511
Bleyer J Mount Electro vibration of the turbinated tissue 750
Blind Asylum North Dakota, provision made for 642
Blindness color a convenient test for 725
from ophthalmia neonatorum report of the committee on the prevention of 790
to prevent 841
Blood poisoning—alcohol 639
in typhoid bacteriologic examination of the 1110
Board of Health of New York State 167
of health employes city is not liable for acts of 252
Boards of health all Massachusetts cities must have 684
of health, right denied to 841
of trustees in North Dakota liability of 685
Bohn, Sidney H More about truffles 208
Book a fortune in a 1010
Botanical garden of New York city 40
Bovee Dr J Wesley Treatment of pelvic pus cases by abdominal section 758
Bovine vaccine plant at Dublin 209
Brain the immediate effects of injuries of the 505
Brazil, medical climatology of 509
Bremer, Dr Ludwig The meaning and import of casts in the urine without albumen and the inadequacy of the ordinary chemic tests 575
Brilliant scheme, a 985
British army, health of the 41
medical association 343
Bromoform in pertussis 621
Broome Dr George Wiley Prophylaxis in Surgery 18[illegible]
Brower Dr Daniel R Chairman's address 881
Brown Dr Price History of a case of recurrent nasal fibroma 859
Dr Bedford The therapeutic action of chloroform in parturition 354
Dr Bedford The treatment of smallpox principally by means of the internal use of the tincture of the chlorid of iron 141
Browning Dr Wm On the relation of sex to the progress of epilepsy 1015
Bryan Dr J H The surgical treatment of chronic suppurating otitis media 700
Burns treated by strong carbolic acid 878
Burning fiery furnace a 466
Burroughs S M will of the late manufacturing pharmacist 127
Dr S E Sulfonal in the vomiting of pregnancy 10[illegible]

BOOK NOTICES

Ashhurst Supplement to the International Encyclopedia of Surgery 10[illegible]2
Benson Synopsis of a Course of Lectures on the Anatomy Physiology and Histo Chemistry of the Nervous System [illegible]
Bernd's Physician's Register [illegible]
Black Black on the Urine [illegible]
Blackwell Pioneer Work in Opening the Medical Profession to Women 823
Bourneville Publication du Progrès Médical Paris [illegible]

PAGE
Cremation in New York cost of 610
in Italy
Crematory for refuse in New York City 4
Creolin poisoning by 1050
Crothers Dr T D Hypnotism in the management of inebriety [illegible]
Dr T D Alcoholic intolerance and [illegible] position [illegible]
Dr T D Some questions of responsibility in opium and cocain inebriety 111
Croton water bug migration of the 1061
Croup false something concerning the diagnosis and treatment of [illegible]
Cutler Dr John A The city doctor 117
Dr John A [illegible] Enemata of whites of eggs memorandum 147

DaCosta Dr J M Remarks on clinical cases 1071
Damages recoverable for breach of contract for sale of practice 168
Dana Dr on the saddle 611
Davis Dr N S Is alcohol ever useful as food or a generator of any natural force in the human body? [illegible]
Dr John [illegible] Practical life in urine examinations [illegible]
Dr Charles Gilbert Hypnotism with special reference to hypnotic suggestion as an aid to the administration of chloroform and ether [illegible]
Day Dr Irving W Caries of the ethmoid bone 590
Dead on the disposal of the with special reference to the prevalent practice of embalming 1074
disposal of the report of the committee on the 10[illegible]
Deafness preventable and its influence on success 1025
Death certificate may a physician prepare his own? 120
rate alleged impossible 297
rates in European cities in [illegible] [illegible]
rate in foreign cities 37
Deaver Dr John B Appendicitis 40
De Garmo Dr W B A note on the advance in the surgical cure of hernia [illegible]
Degeneracy 117
alleged some remarks on 251
Delusion the nature of a 841
Dentists Women Association of [illegible]
Dentistry in Japan recent progress of 720
law Arizona change in 689
new regulations for practice of, in Nebraska 821
Department of public health 572
Dermoid cysts pathology of 531
De Schweinitz Dr G E Histologic and bacteriologic notes on three cases of penetrating wound of the eyeball 707
DeVilbiss Dr Allen What can and can not be done for nasal catarrh by local applications 812
Diabetes as a complication in surgery 511
mellitus in a child 184
Diagnosis early the importance of in some forms of nervous disease 1089
tags for use on the battlefield 85
Diarrhea infantile the etiology of 609
summer of children sulphate of magnesium in 618
Didama Dr H D Should alcohol be used in the treatment of disease 403
Digitalis the action of on the heart 163
Diphtheria antitoxin statistics in Russia 501
clinical observations in the treatment of with antitoxin 563
antitoxin treatment in Germany 252
antitoxin, concerning the action of on the kidneys and on the heart 684
doomed by the discovery of antitoxin, is? 211
heilserum in 82
in New Jersey 874-907
mortality reduction of 421
of the skin genuine 679
school diffusion of 594
the serum treatment of 868
the treatment of by antitoxin 633
the early diagnosis of and the physician's duty when confronted with cases of doubtful character presenting symptoms of diphtheria 118
Diphtheritic specimens by mail 252
Diplomas for disinfectors 168
Dissection amendment of South Dakota laws relating to 960
Divorce denied 729
Doctor in politics the 550
rivals of the 468
Doctors have we too many? 469
Drake Daniel or then and now 429
Drewry Dr Wm F State provision for epileptics 765
'Drugs many remedies few 679
Drunkards treatment provided for North Dakota 829
Dudley Dr E C New instrument case 1097
Dunning Dr L H Treatment of the stump in oöphoro salpingotomy—a new method 304
Duplex personality its relation to hypnotism and to lucidity 928

PAGE
Eastman Dr Joseph Response to the toast Ephraim McDowell 88[illegible]
Dr Joseph A method of suprapubic hysterectomy for good operators and bad fibroids 223
Eaton Dr F J Bromoform in pertussis 621
Eclampsia treatment of 827
Ectopia lentis 796
Ectopic gestation 872
Education physical in childhood and youth a means of preventing disease 308
Electric current the general therapeutic effect of of high frequency and of high tension 827
mouth batteries 208
Electrical currents lesions of fatal 919
Electricity observations on some characteristics and relations of the dynamic and static forms of 951
in the treatment of the vomiting of pregnancy 170
Mr Edison's definition of 877
Electrolysis in detachment of the retina [illegible]97
Electrolytic chlorate of potash by the ton [illegible]
Ellis Dr H Bert A study of the refraction of 1700 eyes 810
Embolism fat after forcible flexion of both knee joints 681
Emergency ration a thirty ounce 781
Emmerich's antitoxin of carcinoma, failure of [illegible]
Enchondroma of the cartilage upper lid 708
Enemata of whites of eggs memorandum 147
Engelmann Dr Rosa The etiology of infantile diarrhea 609
Enteric fever in infancy 599
Enteritis pseudo membranous associated with ascares lumbricoides 612
Entropium and trichiasis on the operative treatment of the severer forms of 659
Epilepsy a clinical note on the treatment of before the habit is formed 101[illegible]
on the relation of sex to the progress of 1015
experience with solanum carolinense in the treatment of 1023
the definition of 773
the moral treatment of 1021
the limitations of surgical operations as a means of relief or cure in 1017
the supplementary treatment of 1024
some non medicinal suggestions in the therapeutics of 1126
Epileptics State provision for 765
Episiotomy concerning the principles and practice of [illegible]
Epistaxis recurring or habitual 887
Epithelioma of eyelids case of plastic operation with exhibition of patient 661
Erwin Dr A J A new septum forceps 802
Erysipelas to abort 883
Ethnology a medical contributor to 919
Ethics a question of 422
of the medical profession the 215
Evelyn Dr Fred W D Hemorrhagic pleurisy 542
Exophthalmic goitre the pathology of 419
goitre electricity in the treatment of 975
goitre changes in the thyroid gland in 1005
Expert opinion bad basis for 1059
testimony medical reform in 444
Expiring craze an 165
Eyeball evisceration of the 701
penetrating wound of the histologic and bacteriologic notes on three cases of and some observations on certain bacilli found in a case of post operative panophthalmitis 707
Eyelids chancre of the 212
Eyes and the brain the relationship between the 792
and ears of school children the hygienic and scientific value of examinations of the 400
astigmatic symmetrical and asymmetrical meridians of the cornea in 852
loss of the through mourning 555

EDITORIALS

A THEORY of the cortical pathology of permanent dementia. 1005
A valuable *contribution to military history* 591
A London refuse destructor plant on a large scale 35
Abdominal vs vaginal hysterectomy 820
Acute pancreatitis and disseminated fat necrosis 774
Adenomas of the liver 870
Alcohol by synthesis 291
An expiring craze 165
An international convention of bacteriologists 35
Anatomic causes of the disturbances of *compensation* in valvular heart lesions 677
Antivenin, the latest contribution to serum therapy 85
Antistreptococcic serum 1145
American Association of Obstetricians and Gynecologists 606
American Dermatological Association 881
American Orthopedic Association 469 549 717
American Public Health Association 628 670
Army Medical Board 550

PAGE
Associations and their journals 531
Bacteriologic examinations in North Carolina 290
Causes of old age 1101
Chicago medical inspectors 775
Chicago Ophthalmological and Otological Society 682
Chicago Gynecological Society 776
Christian science' 591
Christmas 189[illegible] 110[illegible]
Christmas week 1897 465
Cholera in the Pacific 120
Cholera and yellow fever 205
Complete excision of patella 820
Concerning gall stones 589
Concerning portraits 721
Connecticut keeps "open house' for quackery 964
Control of medical practice in Rhode Island 206
Credit where it is due 775
Degeneracy 177
Department of public health 105[illegible]
Don t neglect your summer outing 164
Dr Francesco Vallardi 637
Drugs many remedies few' 679
Evils of a limited tenure of office of health officer 1053
Evolution of our knowledge of typhoid fever 1099
Excellent appointments 550
Filtration as a means of improving the water supply of cities and towns 1143
Genuine diphtheria of the skin 679
Georgetown Medical College Washington, D C 80
Gladstone's views regarding medicine 80
Good journals repay 775
Heredity in relation to insanity and idiocy 1142
Holiday hint to the Rush monument committee 1102
Hypnotism again 1006
Hypnotism as a moral force 549
Inadequacies of arbitrary milk standards in England the 'appeal to the cow 72[illegible]
Less than a cent a visit 505
Litchfield County (Conn) Medical Society 462
Major A C Girard 680
May a physician prepare his own death certificate? 120
Medical examiner s fees 724
Medical temperance 517
Medical superintendents for public institutions 878
Medicine and crickets 78
Medico legal Congress 425
Medico legal Congress at New York 463
Mental hygiene of women 464
Microorganisms in the healthy nose 78
Military surgery of the future 290
Modern hygiene 289
Modification of the Red Cross of Geneva as the proposed symbol of medicine 1053
Natural history of the Kumbh Fair cholera outbreaks 248
Needs of the medical department of the navy 1052
Neuroidin an analgesic 291
New Massachusetts laws relative to the commitment of the insane 519
New Mexico for consumptives 590
New regulations for practice of dentistry in Nebraska 821
New York city hospitals and their visiting staffs 775
Notice to our readers 280
On the infectivity of the urine in typhoid fever 588
On the influence of shell fish in the spread of cholera 248
Omphalopsychism, or faith healing modern and ancient 378
Overdone sterilization 1054
Pathogeny of Addison's disease 503
of dermoid cysts 531
Population and longevity 678
Post typhoid bone lesions 913
Prof Horatio C Wood 208
Prof Huxley 289
Quis custodiet custodes? 964
Re assembling of schools 1009
Section on Ophthalmology College of Physicians Philadelphia 824
Serum therapy in diphtheria 1051
Simulation of insanity 732
Some new light on the causation of idiopathic tetanus 869
Southern Surgical and Gynecological Association 822
State care for the insane 519
Steuben County (Ind) Medical Society 280
Temperance instruction in public schools 868
The Association and its Journal abroad 119
Tho American Orthopedic Association 16[illegible]
The annual reckoning 16[illegible]
The army emergency ration 1004
The American Public Health Association 60[illegible]
The anti streptococcic serum
The American Medical Association press 121
The action of digitalis on the heart 161
The Basle Anti alcohol Congress [illegible]
The beneficent microbe 370
The correspondence of the insane 91[illegible]
The complaint of manufacturing chemists [illegible]

PAGE
Cremation in New York cost of in 1897 139
Cremations increasing in New York City [illegible]
Creolin poisoning by 1040
Crothers Dr T D Hypnotism in the management of inebriety [illegible]
  Dr T D Alcoholic intolerance and predispositions [illegible]
  Dr T D Some questions of responsibility in opium and cocaine inebriety 111[illegible]
Croton water the filtration of the 1001
Croup false, some hints concerning the diagnosis and treatment of 47
Cutter Dr John A The city doctor [illegible]
  Dr John A Albumin or [illegible] of white of egg memorandum [illegible]

DA COSTA, DR J M Remarks on clinical [illegible] 1073
Damages recoverable for breach of contract for sale of practice 168
Dana Dr on the [illegible] [illegible]
Davis, Dr N S Does alcohol exert any food or generator of any natural force in the human body [illegible]
  Dr John B Practical life insurance examination [illegible]
  Dr Charles Gilbert Hypnotism with special reference to hypnotic suggestion as an aid to the administration of chloroform and ether [illegible]
Day Dr Edwin W Caries of the ethmoid bone [illegible]
Dead on the disposal of the with special reference to the prevalent practice of embalming 1074
  disposal of the report of the committee on the 10[illegible]
Deafness preventable and its influence on race 10[illegible]
Death certificate may a physician prepare his own" 120
  rates alleged impossible [illegible]
  rate in European cities in [illegible] 121
  rate in foreign cities 77
Deaver Dr John B Appendicitis [illegible]
De Garmo Dr W B A note on the advance in the surgical cure of hernia [illegible]
Degeneracy 117
  alleged some remarks on [illegible]
Delusion the nature of a 861
Dental Women's Association of [illegible]
Dentistry in Japanese cities progress of [illegible]
  law Arizona change in [illegible]
  new regulations for practice of, in Nebraska 821
Department of public health 872
Dermoid cysts pathology of [illegible]
De Schweinitz Dr G E Histologic and bacteriologic notes on three cases of penetrating wound of the eyeball 707
DeVilbiss Dr Allen What can and can not be done for nasal catarrh by local applications 812
Diabetes as a complication in surgery 511
  mellitus in a child 84
Diagnosis early the importance of in some forms of nervous disease 1089
  tags for use on the battle field 85
Diarrhea infantile the etiology of 609
  summer of children sulphate of magnesium in 613
Didama Dr H D Should alcohol be used in the treatment of disease 10
Digitalis the action of, on the heart 163
Diphtheria antitoxin statistics in Russia [illegible]
  clinical observations in the treatment of with antitoxin [illegible]
  antitoxin treatment in Germany 252
  antitoxin, concerning the action of on the kidneys and on the heart 681
  doomed by the discovery of antitoxin, is? 211
  hellserum in 82
  in New Jersey 874-967
  mortality reduction of 421
  of the skin genuine 679
  school diffusion of 594
  the serum treatment of 308
  the treatment of by antitoxin 633
  the early diagnosis of and the physician's duty when confronted with cases of doubtful character presenting symptoms of diphtheria 118
Diphtheritic specimens by mail 252
Diplomas for disinfectors 168
Dissection amendment of South Dakota laws relating to 960
Divorce denied 729
Doctor in politics the 550
  rivals of the 468
Doctors have we too many? 469
Drake Daniel or then and now 429
Drewry Dr Wm F State provision for epileptics 705
' Drugs many remedies few ' 679
Drunkards treatment provided for, North Dakota 829
Dudley Dr E C New instrument case 1097
Dunning Dr L H Treatment of the stump in oöphoro salpingotomy—a new method 804
Duplex personality its relation to hypnotism and to lucidity 925
EASTMAN Dr Joseph Response to the toast Ephraim McDowell 882
  Dr Joseph A method of suprapubic hysterectomy for good operators and bad fibroids 223
Eaton Dr E J Bromoform in pertussis 621
Eclampsia in treatment of 827
Ectopia lentis 706
Ectopic gestation 822
Education physical in childhood and youth a means of preventing disease 808
Electric current the general therapeutic effects of of high frequency and of high tension 827
  mouth batteries 208
Electrical currents lesions of fatal 919
Electricity observations on some characteristics and relations of the dynamic and static forms of 681
  in the treatment of the vomiting of pregnancy 170
  Mr Edison's definition of 877
Electrolysis in detachment of the retina 597
Electrolytic chlorate of potash by the ton [illegible]
Ellit Dr H Bert A study of the refraction of 1000 eyes 819
Emboli in fat after forcible flexion of both knee joint 684
Emergency ration a thirty ounce 781
Emmerich's antitoxin of carcinoma, failure of 255
Enchondroma of the cartilage upper lid 708
Emulsion of whites of eggs memorandum 147
Engelman Dr Rosa The etiology of infantile diarrhea 609
Enteric fever in infancy 599
Enteritis pseudo membranous, associated with ascares lumbricoides 612
Entropium and trichiasis on the operative treatment of the severer forms of [illegible]
Epilepsy a clinical note on the treatment of, before the habit is formed 1016
  on the relation of sex to the progress of 1015
  experience with solanum carolinense in the treatment of 1023
  the definition of 778
  the moral treatment of 1021
  the limitations of surgical operations as a means of relief or cure in 1017
  the supplementary treatment of 1021
  some non medicinal suggestions in the therapeutics of 1126
Epileptics state provision for 765
Episiotomy concerning the principles and practice of 851
Epistaxis recurring or habitual 887
Epithelioma of eyelids case of plastic operation with exhibition of patient 661
Erwin Dr A J A new septum forceps 892
Erysipelas to abort 883
Ethnology a medical contributor to 919
Ethics a question of 432
  of the medical profession, the 215
Evelyn Dr Fred W D Hemorrhagic pleurisy 542
Exophthalmic goitre the pathology of 419
  goitre electricity in the treatment of 975
  goitre changes in the thyroid gland in 100[illegible]
Expert opinion bad basis for 1059
  testimony medical reform in 444
Expiring craze an 165
Eyeball evisceration of the 704
  penetrating wound of the histologic and bacteriologic notes on three cases of and some observations on certain bacilli found in a case of post operative panophthalmitis 707
Eyelids chancre of the 212
Eyes and the brain the relationship between the 792
  and ears of school children the hygienic and scientific value of examinations of the 400
  astigmatic symmetrical and asymmetrical meridians of the cornea in 852
  loss of the through mourning 555

EDITORIALS

A THEORY of the cortical pathology of permanent dementia 1005
A valuable contribution to military history 591
A London ' refuse destructor plant on a large scale 85
Abdominal vs vaginal hysterectomy 820
Acute pancreatitis and disseminated fat necrosis 774
Adenomas of the liver 870
Alcohol by synthesis 291
An expiring craze 165
An international convention of bacteriologists 8[illegible]
Anatomic causes of the disturbances of compensation in valvular heart lesions [illegible]77
Antivenin the latest contribution to serum therapy 8[illegible]
Antistreptococcic serum 1145
American Association of Obstetricians and Gynecologists 506
American Dermatological Association 851
American Orthopedic Association 469 543 717
American Public Health Association 628 670
Army Medical Board 550
Associations and their journals 331
Bacteriologic examinations in North Carolina 290
Causes of old age 1101
Chicago medical inspectors 775
Chicago Ophthalmological and Otological Society 682
Chicago Gynecological Society 77[illegible]
Christian "science" 591
Christmas 189[illegible] 1103
Christmas week 1807 465
Cholera in the Pacific 420
Cholera and yellow fever 20[illegible]
Complete excision of patella 820
Concerning gall stones 589
Concerning portraits 721
Connecticut keeps "open house' for quackery 964
Control of medical practice in Rhode Island 206
Credit where it is due 775
Degeneracy 177
Department of public health 105[illegible]
Don't neglect your summer outing 164
Dr Francesco Vallardi 637
  Drugs many, remedies few 679
Evils of a limited tenure of office of health officer 105[illegible]
Evolution of our knowledge of typhoid fever 1099
Excellent appointments 550
Filtration as a means of improving the water supply of cities and towns 114
Genuine diphtheria of the skin 679
Georgetown Medical College, Washington, D C 80
Gladstone's views regarding medicine 80
Good journals repay 775
Heredity in relation to insanity and idiocy 1142
Holiday hint to the Rush monument committee 1102
Hypnotism again 1006
Hypnotism as a moral force 549
Inadequacies of arbitrary milk standards in England the appeal to the cow' 723
Less than a cent a visit 505
Litchfield County (Conn) Medical Society 462
Major A C Girard 680
May a physician prepare his own death certificate? 120
Medical examiner's fees 724
Medical temperance 547
Medical superintendents for public institutions 378
  Medicine and crickets ' 78
Medico legal Congress 425
Medico legal Congress at New York 463
Mental hygiene of women 464
Microörganisms in the healthy nose 78
Military surgery of the future 290
  Modern hygiene 289
Modification of the Red Cross of Geneva as the proposed symbol of medicine 10[illegible]3
Natural history of the Kumbh Fair cholera outbreaks 248
Needs of the medical department of the navy 1052
Neuroidin an analgesic 291
New Massachusetts laws relative to the commitment of the insane 519
New Mexico for consumptives 590
New regulations for practice of dentistry in Nebraska 821
New York city hospitals and their visiting staffs 775
Notice to our readers 380
On the infectivity of the urine in typhoid fever 588
On the influence of shell fish in the spread of cholera 248
Omphalopsychism, or faith healing modern and ancient 378
Overdone sterilization 1054
Pathogeny of Addison's disease 503
  of dermoid cysts 331
Population and longevity [illegible]78
Post typhoid bone lesions 913
Prof Horatio C Wood 208
Prof Huxley 289
Quis custodiet custodes? 9[illegible]4
Re assembling of schools 1009
Section on Ophthalmology College of Physicians Philadelphia 824
Serum therapy in diphtheria 1051
Simulation of insanity [illegible]
Some new light on the causation of idiopathic tetanus 869
Southern Surgical and Gynecological Association 822
State care for the insane 549
Steuben County (Ind) Medical Society 280
Temperance instruction in public schools 8[illegible]
The Association and its Journal abroad 119
The American Orthopedic Association 16[illegible]
The annual reckoning 16[illegible]
The army emergency ration 1001
The American Public Health Association 50[illegible]
The anti streptococcic serum [illegible]7
The American Medical Association press 121
The action of digitalis on the heart [illegible]
The Basle Anti alcohol Congress [illegible]
The beneficent microbe [illegible]
The correspondence of the insane [illegible]
The complaint of manufacturing chemi [illegible]

PAGE

SOCIETY NEWS

American Academy of Railway Surgeons 710
Association of Obstetricians and Gynecologists [illegible] 77, 682
Climatological Association 11
Dermatological Association 81
Electro-Therapeutic Association [illegible]
Orthopedic Association [illegible]
Public Health Association [illegible] 717
Association of American Medical Colleges [illegible]
British Orthopedic Society [illegible]
Chicago Gynecological Society—American Medicine [illegible]
Ophthalmological and Otological Society [illegible] 1107
Pathological Society [illegible]
Cleveland Medical Society [illegible]
College of Physicians of Philadelphia 918
Colorado State Medical Society [illegible]
Congress of American Physicians and Surgeons [illegible]
[illegible] Academy of Medicine [illegible]
Kentucky State Medical Society [illegible]
[illegible] County (Pa.) Medical Society [illegible]
[illegible] (Pa.) Medical Society [illegible]
[illegible] County (Pa.) Medical Society [illegible]
Medical Society of Virginia [illegible]
Medico-Legal Congress [illegible]
Michigan State Medical Society [illegible]
Mississippi Valley Medical Association [illegible]
Ohio State Medical Society [illegible]
[illegible] of the Convention of [illegible]
Section on Ophthalmology, College of Physicians of Philadelphia [illegible]
Southern Surgical and Gynecological Association [illegible]
Southwestern Iowa Medical Association [illegible]
The Denver Club [illegible]
Third International Congress of Thalassotherapy [illegible]
Tri-State Medical Society [illegible]
Medical Society of Alabama, Georgia and Tennessee [illegible]

TAX sanitary, a popular [illegible]
Teeth, hygiene of the [illegible]
successful implantation of 111
Tendon advancement and the tendon retroplacement [illegible]
grafting, a new operation for deformities following infantile paralysis [illegible]
suture, the buried [illegible]
Tenotomy of the ocular muscles, the technique of [illegible]
of the eye muscles, the limitations of [illegible]
of the ocular muscles, epilepsy cured by [illegible]
Tenotomies of the ocular muscles, slight effects of, and what are the indications and advantages of tendon contractions" [illegible]
Thallassotherapy, international congress of 1067
Theobald Dr Samuel The slight effect sometimes obtained as the result of free tenotomies of the ocular muscles for heterophoria 742
The house we live in 1057
'The medical corpse of the navy 170
Therapeutics without drugs 781
Thomas Dr Charles H Tendon advancement and tendon retroplacement 715
Thoracic troubles from a surgical standpoint 50
Thudicum, Dr J W L 1010
Tiffany Dr Flavel B Ectopia lentis 705
Todd Dr F W Treatment of hernia cerebri 121
Tonsils, acute lacunar diphtheria of the 558
larvated tuberculosis of the 684
Tonsillitis of malingerers 918
Towler Dr S S Is the Journal too good" 507
'Toxin A novel' 1010
of erysipelas in sarcoma of palate 825
Toxicity as an etiology of nervous diseases 10
Trachea condyloma of the 1150
Tracy Dr J L The Woodbridge treatment of typhoid fever 166
Traumatic mastitis in men 1109
Trendelenburg s method for varicose veins 468
Trichinosis contributions to the study of 777
Triplets 965
Truax Dr J G A domestic test for albuminous urine 776
Truffles more about 208
Tubercle bacilli on butter 382
bacilli, transmission of 126
disinfection of 252
infected houses, disinfection of 170
Tubercular disease of the portio vaginalis 877
Tuberculosis 952
prophylactic effect of sea air in 209
of the cecum 251
prophylaxis of and its results 118
and its prevention 101
heredity of 128
of the cervical lymphatic glands concerning the relations of, to tuberculosis of the tonsils 825
in cattle and the tuberculin test 828
Tuberculosis leaves a shining mark [illegible]
of infancy, has tuberculous cow's milk causative influence in 617
of the yellow race 1067
Tuberculous patients disinfection of the rooms of 852
patients modifications of the skin in 10
patients—a misquotation corrected 92
parenchymatous keratitis a case of [illegible]
'Tuckahoe' or the American truffle [illegible]
Tumors large vascular an original osteoplastic operation for the removal of growing in the vault of the pharynx antrum of Highmore spheno maxillary and pterygo maxillary fissures 180
malignant the treatment of by the toxins of the streptococcus of erysipelas 171
malignant and traumatism relations between [illegible]
and cancers our present knowledge of 87
of the mammary gland 90
Turbinate tissue electro vibration of the [illegible]
Turnbull, Dr Laurence What the patient expects and what we are able to do in chronic catarrh of the tympanum or middle ear with deafness [illegible]
Tuttle Dr Albert H Total hysterectomy by a new vagino abdominal method [illegible]
Typhoid bacillus longevity of the [illegible]
fever [illegible]
fever at Stamford Conn [illegible]
fever treatment of [illegible]
fever in children [illegible]
fever disinfection in [illegible]
fever the Woodbridge treatment of [illegible]
fever [illegible] 110
fever reports on continued [illegible]
fever aural complications from secondary infection [illegible]
fever in children guaiacol in the treatment of [illegible]
fever the treatment of without alcohol [illegible]
fever report of the treatment of six grave cases of without alcohol 190
fever treatment of [illegible]
fever in Ohio 1148
fever in Wisconsin 1118
Typography a [illegible] art [illegible]
Tryon Surgeon General James R [illegible]

[illegible] Dr C F Physical education in childhood and youth a means of preventing disease [illegible]
Umbilico vesical hernia a case of 577
Undertaking to regulate [illegible]
University of Pennsylvania [illegible], 1053
Upas tree the [illegible]
Uremic pericarditis [illegible]
Ureteral and renal diseases in women diagnosis of [illegible]
surgery a review of [illegible]
Ureters some points in the surgery of 812
Urethroscopy and cystoscopy modern catheterization of the ureters and intravesical removal of tumors 11
Urgent exigency the duty of [illegible]
Urine albuminous a domestic test for 776
casts in the without albumen, the meaning and import of and the inadequacy of the ordinary chemic tests [illegible]
in typhoid fever, on the infectivity of the 588
suppression of, after operation—saline injection—recovery [illegible]
U S Hospital for Insane report of 470
Uterine appendages the etiology and treatment of inflammations of the [illegible]
appendages, remote results of removal of [illegible]
canal treatment of contractions or stenosis of the 865
fibro myomata, ligation of the broad ligaments for—report of two cases 220
flatus [illegible]
fibroids thyroid treatment of 561
irrigator and drainage tube a combined 591
Uterus, gravid inguinal hernia of the 780
fibroid tumors of the 205
treatment of foreign bodies in the [illegible]
the treatment of hemorrhagic conditions of the, by zinc amalgam electrolysis 18
vaginal fixation in retrodeviations of the with some remarks on vaginal celiotomy 321

VACCINATION of school children 505
neglect of in North Carolina 168
Vaginal hysterectomy for suppurative disease and its results 260
hysterectomy the early history of 176
Valentine Ferd C Modern urethroscopy and cystoscopy—catheterization of the ureters and intravesical removal of tumors 11
Vallardi Dr Francesco 637
Valvular heart lesions, anatomic causes of the disturbances of compensation in 677
Van Hook Dr Weller Some points in the surgery of the ureters 812
Vansant, Dr F L Recurring or habitual epistaxis 887
Varicose veins Trendelenburg's method for 168
Variola and vaccinia their manifestations and inter relations in the lower animals [illegible]
in Marseilles [illegible]
influence of on menstruation, pregnancy, parturition and the fetus 212
Venereal disease, increase of in the British army [illegible]
Ventilating warships 211
Vertebra fifth cervical forward dislocation of the 171
Vesico vaginal fistula treatment of by intra vesical suture 1110
Veterinary science practice of made amenable to law in North Dakota 877
surgeons must prove qualifications [illegible]
Vinnedge, Dr W W Another side of the life insurance question [illegible]
Dr W W Life insurance companies reduce fees [illegible]
Visceral anomaly and reversion, a remarkable case of 723
Vital statistics a plea for better registration of [illegible]
Vivisectors the greatest of [illegible]
Vomiting death from 1001

WAIVER of privilege may be made at any time [illegible]
Was it leprosy" [illegible]
Water supply, mismanagement of New York's [illegible]
hygienic examination of [illegible]
Watson, Dr W S The early recognition and management of the mentally disturbed 112
Dr W S Œsophageal stricture and its successful treatment by electrolysis after forty years standing 97
Waxham Dr F E Is diphtheria doomed by the discovery of antitoxin? 211
Weeks Dr John E The operative treatment of immature and some forms of zonular cataract [illegible]
Wells disinfection of [illegible]
Werder Dr X O Vaginal fixation in retrodeviations of the uterus with some remarks on vaginal celiotomy 321
West Point more bacteriology and sanitation should be taught at 127
White Dr A Campbell Clinical observations in the treatment of diphtheria with antitoxin [illegible]
Why Baltimore is a healthy city 129
Wilder Dr Wm H Formalin as a preventive agent for eye specimens 800
Willard Dr De Forest Erasion excision and amputation in joint disease 182
Williamson, Dr A W The supplementary treatment of epilepsy 1021
Winslow Dr Forbes Suicide as a mental epidemic 471
Dr Charles F Tuberculosis and its prevention 404
Dr on female cycling [illegible]
Wire Dr G F Library of the American Medical Association [illegible]
Wisconsin pharmacy law, change in the session laws [illegible] 202
Without fear 1108
Woman's dispensary report of 170
Medical College of Pennsylvania 81
Women doctors in Russia [illegible]
medical inspectors [illegible]
medical missionaries [illegible]
Wood Dr Casey A Letters to my hospital internes past and present 219, 292, [illegible]
Professor Horatio C 208
Woodbridge Dr John Eliot Reports on typhoid fever continued 51 99 237 274
Dr John E Typhoid fever in children [illegible]
Wooden diagnosis, with up to date therapeutics [illegible]
Woods Dr Hiram To what extent should recently suggested systems of muscular exercise displace tenotomy in the treatment of heterophoria 748
Work Dr J A Some of the causes of the great mortality in infancy and childhood 618
Wounds, aseptic, the surgical technique of 232
Wrapping paper for articles of food 81
Writ sarkastik" was this 126
Würdemann Dr H V The infiltration method of anesthesia in ophthalmic practice 843
Wyeth Dr John A An original osteoplastic operation for the removal of large vascular tumors growing in the vault of the pharynx antrum of Highmore spheno-maxillary and pterygo maxillary fissures 180

YELLOW fever and cholera 205

ZIMMERMAN, DR M W Practical points in anesthesia for plastic operations about the eye 654

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ADDRESS

CONCERNING STONE IN THE KIDNEY AND ITS OPERATIVE TREATMENT, WITH REPORT OF CASES

CHAIRMAN'S ADDRESS

Delivered before the Section on Surgery and Anatomy at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md, May 7-10, 1895

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The first, the easy, the pleasant part of my task, is to express my appreciation of the honor of being permitted to preside over your deliberations The distinction is not lessened by the surgical achievements, past and present of the city in which we are convened It was in Baltimore that the common iliac artery was first tied by William Gibson before he was called to shed luster on the surgery of Philadelphia It was here that Jameson first in the history of surgery made a nearly complete excision of the upper jaw It was here that the son, worthy of a worthy father, Nathan Rhyno Smith, for nearly half a century fostered surgical growth His surgical anatomy of the arteries did much toward elevating American surgery of the second quarter of the century to the high plane then occupied by that of France and of England For a simple and efficient method of suspending an extremity are we likewise indebted to this Nestor among American surgeons The mantles of such worthy peers have not been laid aside, they are worn with dignity and grace by younger scions *Nomina sunt odiosa* Great as were the early surgeons of Baltimore, they did not venture, like those of to day, to remove the Gasserian ganglion, lay bladder, ureter and kidney open to inspection, and last but not least, extend the hope of all but absolute relief to the woman with cancer of the breast

The rule of the ASSOCIATION calling for an annual address on surgery, fortunately relieves the Chairman of your Section of the burden of presenting in formal review the progress made It gives him the option to limit his remarks to a single topic of surgical interest Of this privilege I beg to avail myself, the subject of my choice being, "Concerning stone in the kidney and its operative treatment"

Clearness in the diagnosis and skill in the operative treatment of surgical diseases of the kidney are among the latest, though not the least, of the conquests of the closing decades of our century Thorough chemic, microscopic and bacteriologic examination of the urine, cystoscopy, catheterization of the ureters, and probatory incisions, have done much to bring affections of these organs within the range of diagnostic certainty The relative values of symptoms are becoming fixed, and in the operative technique many questions are definitely settled and more are fast nearing solution Yet there are not a few problems pertaining to renal surgery which collective statistics alone can solve, since from the comparative rarity of the affection the experience of the individual must be greatly restricted Such problems pertain to the diagnosis and treatment of primary stone in the kidney To more clearly elucidate the questions to be submitted for consideration, I beg to present the following seven cases in which the kidney was explored for stone

Case 1—M L, age, 27, seen with Drs Phelps and Comegys A robust young man under treatment for gonorrhea, for which the balsamic oils had been freely administered Has had repeated sharp attacks of pain in the back and the left groin, but never required treatment for them On April 1, 1892, he was seized with violent pain in the left side, radiating to the testicle Micturition frequent The urine was of high specific gravity and contained a large amount of blood Three days after the inception of the attack there was a severe rigor, followed by febrile elevations of temperature of from 2 to 3 degrees, which continued until April 22 The symptoms were referred to the bladder Dysuria was the marked subjective symptom The quantity of urine was greatly reduced, until the quantity passed in twenty-four hours was between six and eight ounces The patient had become irresponsive and somnolent The tongue was dry The urine secreted had to be removed by catheterization Bimanual examination of the left lumbar region showed increased resistance On deep inspiration a very decided enlargement of the left kidney, could be detected The examination elicited pain in the region of the kidney, radiating toward the bladder Diagnosis pyelitis and oliguria, probably of calculus origin

Operation, April 22, chloroform narcosis, incision of the costo-iliac interval parallel to the last rib and exposure of kidney The organ was apparently twice its normal size, of a dark purplish color Exploratory aspiration revealed pus Incision through the posterior wall of the kidney substance into the pelvis gave vent to about two ounces of foul pus In the lower end of the pelvis a small oxalate of lime calculus was found impacted, weight eight grains The cavity of the kidney was thoroughly irrigated with sterilized water, drainage tube inserted and wound partly packed With the relief of intra-renal tension afforded by the operation both kidneys resumed their function, the urine passed by the bladder and through the wound was, as near as could be estimated, about equal in quantity The temperature subsided to the normal within a week, and it looked, during the first week after the operation as though the patient would make an uninterrupted recovery Without discernible cause a rigor supervened on May 23 It was followed by a train of uremic symptoms identical with those of his first seizure The urine ceased altogether to flow *per vias naturales* and the quantity discharged from the fistula of the left side was reduced to from six to eight ounces in the twenty-four hours On May 26 four ounces were passed from the wound From that time to May 28 the condition of total anuria existed Pain was complained of in the right lumbar region and palpation revealed a slight enlargement of the kidney

May 29, 37 days after the first operation, nephrotomy was made on the right side About one ounce of fetid pus was removed, but prolonged and careful exploration of the pelvis and ureter failed to reveal the presence of a calculus The wound was treated as in the first instance by drainage Within twenty-four hours the patient *quoad vitam* was on the road to recovery The left kidney at once resumed its function and during the three years which have passed has performed three fourths of the work of both glands The right kidney has never resumed its full functional activity It is easy to estimate the excreting capacity of the two glands since the patient has a renal fistula on each side, for the relief of which he will allow no effort to be made During the last year not an ounce of urine has entered the bladder Except for the inconvenience of carrying a urinal, the patient would consider himself restored to perfect health

Case 2—Jewish Hospital June 28 1892 J J age 28 salesman, of temperate habits during three years had had frequent attacks of severe pain in the region of right kidney During the last year these attacks were followed by hematuria Milder attacks followed each other at intervals of one or two weeks During the last seizure he was seen by my assistant, Dr Evans, who pronounced it of unusual severity Present condition robust adult, below average height, but very obese Physical examination negative Bimanual examination of right kidney very painful Kidney can not be distinctly palpated Urine passed in twenty four hours, forty five ounces reddish in color, specific gravity 1026 Microscopic examination showed a few white blood corpuscles, and oxalate of lime crystals Diagnosis nephrolithiasis dextra

Operation June 30 1892 Oblique incision Panniculus adiposus very largely developed Examination of the kidney difficult, owing to enormous development of fat capsule, much of which had to be removed with scissors and forceps Kidney loosened and drawn into the wound Palpation and acupuncture negative as to stone Incision along convexity and digital exploration likewise negative The hemorrhage during the search having been rather profuse, the kidney wound contused and the search in the hope of reward having been *rather prolonged the renal wound* was partly closed with sutures and a drainage tube carried into the pelvis Nephrorrhaphy with catgut sutures Owing to the excision of retro renal fat masses the avoidance of a cavity was not practicable During seventy two hours the patient suffered excruciatingly from renal pains which subsided with the removal of the drainage tube The wound healed by primary union except for a renal fistula, which healed spontaneously within three months During six months after operation patient suffered from no attacks An opportunity to see him since has not been had

Case 3—M C, age 35, seamstress, entered Good Samaritan Hospital Nov 9, 1892 States that for two years she has been suffering from lumbar pains, followed in the course of time by a constant soreness in the left side The urine became cloudy, filled, according to her statement, with mucus and pus and often presenting large quantities of blood She states that sand was often passed, and in September last she passed a calculus the size of a pea In urinating, pain is always present, and the stream is suddenly checked She also states that she sometimes has pain down to the heel of the left foot, and that it is often of a shooting character She had hemoptysis and cough three years ago and has frequently suffered from night sweats Present condition patient in poor condition, having lost about twenty to twenty-five pounds, appearance somewhat emaciated, urinalysis shows urine to be normal the greater portion of the time, but after sustaining severe pains in the bladder it contains either enough blood to tinge it or to appear in the *form of clots on sedimentation* Cystoscopic examination made by a specialist indicated the presence of a neoplasm in the anterior wall of the bladder Whereas this was far from distinct, the suprapubic incision for exploratory purposes was determined upon

April 16, suprapubic incision displayed a bladder normal in every regard No hemorrhage was visible at the examination The ureters were carefully examined at the time, and nothing in the way of blood was found to come from them Since the operation was negative in its results, the bladder wound was closed at once by Lembert sutures and the *incision through the parietes packed* The wound in the bladder healed by primary intention, temperature and pulse always remaining normal Patient was discharged from the hospital June 6, 1893, with the wound perfectly healed

Patient re-entered the hospital March 8, 1894, and complains of severe pain in the region of the left kidney, shooting toward the groin and the leg, is also very tender to pressure over the left kidney, again has blood in the urine at intervals, especially after the pain is severe March 28 Says that she passed a stone last night while urinating, but it was *lost in the closet*, no one saw it The patient insists upon an exploration of the left kidney April 10 Oblique incision in the left costo iliac interval, exposure of the left kidney The kidney was drawn into the wound and carefully palpated with negative results Incision in the convex surface large enough to admit the finger, with exploration of the calices likewise *negative* The incision was prolonged therefore into both poles and the kidney subjected to ocular inspection Nothing abnormal was found. The hemorrhage was relatively slight and ceased entirely after the insertion of four deep and five superficial catgut sutures After the kidney was fixed in its position with silkworm gut, external wound was closed By May 1 the patient had recovered without any *trouble from the operation*, and on June 5 was discharged There was no further hematuria or pain of any consequence Four months after the operation the patient presented herself at the office with a needle underneath the skin of Scarpa's triangle on the left side This was removed, the patient claiming to have no knowledge as to how it came there

Oct 8, 1894 Patient visited hospital to-day, is in good health and has had no return of her trouble

Case 4—Good Samaritan Hospital, Sept 20, 1894 Mrs W, age 43, married About seven years ago patient was sick with acute renal pains *followed* by discharge of pus and blood with the urine Since the first these attacks were invariably limited to the left side The present attack, like previous ones, began suddenly with the sense of weight and fullness and the detection of a swelling Present condition-Fairly nourished woman Temperature in the morning normal, in the evening 100 degrees, pulse varying between 80 and 100 On the left side the kidney enlarged to the size of a double fist, can be clearly outlined in its lower segment. It presents itself as a rather movable tumor in the costo-iliac interval, not reaching the iliac crest Urinalysis-*urine often examined is turbid*, light in color and containing a sediment rich in pus cells and crystals of oxalate of lime, a few red blood discs in every specimen Very many examinations failed to reveal the bacillus of tuberculosis Diagnosis movable kidney, with recurring pyonephrosis, probably of calculus origin Right kidney determined to be normal by cystoscopic examination

Operation September 28 Chloroform-morphia narcosis Incision parallel to last rib Exposure and fixation of kidney Removal by incision of about a pint of fetid pus. Kidney sacculated In lower portion an adherent calculus *was found and removed with some difficulty* Irrigation and drainage The patient's temperature varied from 101 to 102.5 degrees from the third day for a week Profuse discharge necessitated daily dressing

November 27 Patient discharged in good condition, with renal fistula and drainage tube

Since the operation I have seen the patient once for renal distension, from displacement of tube. Nephrectomy will eventually become necessary

The presence of an oxalate of lime calculus (weight 17 grains), with the history, makes it probable that nephrolithiasis was the first condition, followed by recurrent hydronephrosis and in turn by mobility of the kidney Suppuration was probably a late factor in the case, which earlier interference would have prevented

Case 5—L S, male, age 25, admitted to Avondale Hospital with diagnosis of recurrent appendicitis States that except for hip disease, from which he suffered early in life he was well *until eight months prior to admission*, when he was suddenly seized with severe colicky pain in region of appendix, associated with vomiting Was free of pain for six weeks, when he suffered a second attack of great severity, which confined him to his bed during four weeks He has never recovered entirely from this attack States that he is always in pain, for which he has habituated himself to the use of *morphia, of which he takes* about three-quarters of a grain in the twenty four hours Present condition well developed male Ankylosis of right hip and complemental pelvic inclination Complexion rather sallow Pain more or less constant in the region of the appendix Three times within the month the pain was severe enough to require the administration of morphia by injection During these attacks the temperature rose to 100 degrees, at other times normal Careful palpation fails to reveal tenderness over the appendix Physical examination of the abdomen negative Pressure over the last rib toward the kidney always elicited severe pain Urinalysis during six weeks, urinalysis made twice each week Urine always contained in the neighborhood of 5 per cent of albumin It was generally light straw color, slightly turbid, always acid. Microscopic examination always revealed pus cells and a few red blood corpuscles and bladder epithelia. Crystals were never found. Repeated examination by centrifugation failed to reveal tubercle bacilli, the presence of which would not have been surprising with the previous history of long-standing tubercular disease of the hip.

November 4. Cystoscopic examination under cocain. Bladder normal. Stream from right ureter was turbid; across the field slight flakes of white material passed from time to time. The left ureter discharges clear urine. Diagnosis: nephrolithiasis dextra.

Operation November 11. Oblique incision through the right costo-iliac interval. Exposure of the kidney, which seems normal in color and size. In the posterior wall, near the hilum, an induration distinctly palpable. Acupuncture proves it to be due to a stone. Radial incision in the line of the blood supply, followed by the easy removal of a stone, uric acid, weight 60 grains. The stone was in the substance of the gland, only slightly projecting into the pelvis. The wound in the kidney was closed by three catgut sutures. Palpation of the kidney for other stones negative. Fixation of the kidney by two silkworm gut sutures. Drainage with strands of silkworm gut.

November 12. Patient passed a restless night. Severe pain in the back, right groin and testicle. Urine very bloody and containing many clots. Quantity passed in twenty-four hours thirty ounces. Temperature 100 degrees, pulse 90.

November 13. Pain less severe. Passed forty ounces of urine; last samples slightly tinged with blood. Temperature normal, pulse normal.

From this time the patient's recovery was uninterrupted. The drainage was removed with the first dressing, on the tenth day. Union perfect. December 4, Patient discharged well. April 4, Patient presented himself to-day, perfectly restored to health. The urine normal in every respect.

Case 6.—Martin L., aged 28, single. Entered Good Samaritan Hospital Feb. 28, 1894. History for the past five years has had severe pains in the region of the left kidney. Very frequently he has suffered from severe pains shooting down the groin and the left testicle and into the leg. These attacks are usually followed by the appearance of blood in larger and smaller quantity in the urine. These attacks last from one to three days. Present condition: well-nourished man of short stature. Pressure over the left last rib very painful. No enlargement of the kidney discernible. Urinates three to four times during the night. The urine turbid, specific gravity 1040, rich in albumin and red blood corpuscles. Contains also oxalate of lime crystals.

March 3. The patient just passed a very bad night; has suffered intensely from an attack of renal colic. Urine passed frequently and containing large quantities of blood. Morphia administered in grs. ¼ doses at 3 in the morning and again at 9. Diagnosis: renal calculus.

March 10, operation. Oblique incision over the left kidney from the middle of the last rib toward crest of ilium. Kidney exposed and brought into the wound. In the pelvis of the kidney a number of loose calculi were felt. Incision one inch long through convex border, circulation being controlled by the finger of an assistant. Hemorrhage slight, but drainage of a considerable quantity of urine. Three stones were easily removed from the pelvis. Two smaller ones adherent to the calices removed by blunt curette. Suture of the kidney wound by three deep and two superficial catgut sutures and sewing of the kidney to the deep fascia. For purpose of drainage, there having been considerable oozing from the peri-renal tissue, the wound was very firmly packed with gauze. March 11. Patient passed a very bad night, vomited considerably and complained of some abdominal pain. Passed from the bladder ten ounces of bloody urine. Ordered a teaspoonful of Epsom salts every two hours. Dressings changed and gauze removed. No drainage of urine from the wound. Wound looks healthy. March 12. Evidences of intestinal obstruction, vomiting recurring at intervals of half an hour has assumed the form of regurgitation. Bowels have not moved. Abdominal distension very marked. Temperature 100, pulse between 120 and 130, quantity of urine in twenty-four hours, twenty-seven ounces. March 13. Patient passed a very bad night. Regurgitation more marked. Temperature 96, pulse 160, 11.30 P.M., patient died.

March 14. Autopsy. Abdomen very much distended. Upon opening the abdomen the intestines, from the descending colon upward, including all of the small intestine to the duodenum, very much distended; peritoneal vessels, mesenteric and intestinal, are very much injected. There is no pus present, nor are there any flocculi of lymph to be found. Very thorough search of the peritoneum over the kidney fails to reveal any wound of this tunic. Left kidney presents a wound along its convex border quite firmly agglutinated. About the incision some infiltration of blood in the cortex of the kidney. Right kidney normal.

Case 7.—D. K. G., male, age 47, observed with Dr. Forchheimer. Family history good; has never been seriously ill, except three years before he came under observation, when he was confined to his bed with severe pain in the left lumbar and inguinal regions, which was ascribed to ileo-colitis. Within the last year he has suffered a number of times from chills followed by febrile elevations. These seizures would keep him indoors for twenty-four or forty-eight hours only. During these attacks he would frequently vomit. He has not lost in weight. His greatest complaint has been pain in the back, which would awaken him in the night. The pain has never been severe enough to necessitate the use of morphia. It has been limited to the left side, and never assumed the form of renal colic. Has twice been examined for bladder trouble, and each examination was followed within an hour by a rise of temperature to 104 degrees. Within twenty-four hours the temperature subsided to the normal. This patient was under my observation during six months. He was enabled to follow his vocation, and except for pains at night and what he believed to be malarial seizures, suffered comparatively little. On the part of the urinary tract there were no subjective symptoms. Micturition was neither abnormally frequent nor painful at any time. Physical examination negative, except for a very marked tenderness over the left kidney, which could always be evoked by deep pressure against the last rib. Bimanual examination failed to reveal any enlargement of the kidney, nor were referred pains ever elicited. Urinalysis: During six months his urine was examined at least once a week. It was always slightly turbid when passed, a little paler than normal, acid in reaction and of normal specific gravity. Every specimen contained a trace of albumin, a number of pus cells and a few red blood discs. At no time during the prolonged period of observation did the specimens obtained by centrifugation contain either crystals or tubercle bacilli. During the last month prior to operation, the pyuria increased notably.

November 25. Cystoscopic examination under cocain. Bladder normal. Ureters brought into view, and streams of urine found alike on the two sides. About the left ureteral orifice, there was an area of redness, extending apparently a half inch toward the urethra. Hemorrhage was not observed. The examination, though made with every precaution to the contrary, was followed within two hours by a chill and a rise of temperature to 104 degrees. In three days the patient was again about his work. Diagnosis: nephrolithiasis sinistra.

Operation, at Christ Hospital, Jan. 22, 1895. Morphia and chloroform anesthesia. Oblique incision through costo-iliac interval. Exposure of kidney through *capsula adiposa* of moderate thickness. Kidney, apparently of abnormal length, drawn into the wound and carefully palpated with negative results. Acupuncture resorted to without locating a stone. With digital compression of the renal pedicle, the autopsy cut was made and the interior of the gland subjected to palpation and inspection. The incision was attended by very little hemorrhage, nor was any pus evacuated. The kidney structure was normal. In the lowermost portion of the pelvis an elongated stone was found, opposite the beginning of the ureter. An effort to remove it through the incision in the kidney failed. Therefore the pelvis was opened by a longitudinal incision. The stone was easily removed. Wound in pelvis closed by two catgut Lembert sutures. For the closure of the kidney wound, three deep and four superficial sutures were used. After fixation of the kidney with silkworm gut sutures, the wound was closed, a strand of gut being used for drainage. An uninterrupted recovery followed the operation. During seventy-two hours the urine contained considerable blood, and the colicky pains were severe enough to necessitate the use of morphia. Hemorrhage from the kidney ceased on the third day. The highest temperature reached was 100 degrees The quantity of urine was twelve and one half ounces the first twenty-four hours, twenty-one ounces during the second, thirty seven ounces during the third after which the quantity was normal The patient has had no attack of pain since the operation The urine still contains a few pus corpuscles but red blood discs are not to be found First dressing and drainage was removed on the tenth day, sutures at the end of two weeks Primary union along the entire line The patient left the hospital after five weeks well, except for the presence of pus cells in the urine In four examinations made since his departure from the hospital, blood discs were not found In two examinations of urine recently made oxalate of lime crystals were found

Stone in the kidney is far from being a rare affection if the records of autopsies are to be judged from In the majority of cases thus found, they were unattended by tangible symptoms On the other hand no other affection of the kidney is so often erroneously supposed to be present as stone Of the seven nephrotomies here recorded and made for stone the search proved fruitless in two In 1886 Gross was already enabled to collect twenty-nine cases of unsuccessful operations for stone, all of which recovered A few years later McCosh found five additional cases of which two were fatal These were cases of Chavasse, and in both calculi were found at the autopsy Similar unfruitful explorations have since been made, twice by Keyes[4] and Parkes,[5] once by Guyon,[6] Bruce Clark, Tiffany[7] and Israel While it is probable that in some of these cases a small concretion was overlooked, the thorough exploration after incision made by such competent operators must lead us to believe that there is a condition of the kidneys, other than lithiasis, which is expressed by the symptomatic tripod of renal calculus before destructive changes have been produced, namely, lumbar pains, renal colic and hematuria The term "nephralgie hematurique," proposed by Sabatier[10], describes the cardinal symptoms but does not explain the condition which varies with the varying causes of hyperacidity of the urine, syphilitic cicatrices, mobility of the kidney and consequent intermittent hydronephrosis or hemophilia with renal expression of its presence In a nephrectomy done for hematuria by Senator,[11] the kidney was found absolutely normal For diagnostic purposes, catheterization of the left ureter was made by Nitze through a suprapubic incision, and the source of the hematuria, if not its cause, satisfactorily determined In one of my own cases, although the kidney was not removed, the hematuria was doubtless of like hemaphilic origin, for the kidney upon section was found absolutely normal (Case 3)

An array of forty-four recorded cases of failure to find a stone may be of importance in damage suits arising from such failure They demonstrate that the diagnosis can be only approximately made The record is equally significant in showing the safety of such explorations since only two deaths are recorded, and in both cases stones were found at the autopsy It is equally noteworthy that in many of the cases thus operated upon, permanent relief was afforded by the exploratory incision, either in consequence of section of the lumbar nerves or of relief of intra-capsular tension, the severance of adhesions or the fixation of a previously movable kidney In not a few, however, has there been recurrence of symptoms in from a few weeks to a year

In the diagnosis of kidney stone, writers have for many years pointed to the presence of abnormal constituents in the urine First, crystals indicative of the character of the stone, and second, blood in quantities appreciable to the unaided eye The hemorrhage, it is said, is rarely as profuse as in malignant disease, but yet is present in considerable quantity In both regards, observations often and carefully made will be negative In two of the cases very accurate examinations for a period of from one to six months were made and crystals were not found Except when a stone is in the process of growth, the presence of crystals can hardly be expected Furthermore, to be of clinical significance, the crystals must be proved to be passed with the urine, and not to have been formed later In only one of the cases of successful nephrotomy for stone recorded above, was the hematuria apparent Far more important, however, it appears to me, is the presence of red blood discs at every microscopic examination made In three of the cases the examination extended over a period of from one to six months, without out failure to find a few discs in every specimen examined In all of these cases the microscopic hematuria was associated with acid pyuria The aseptic character of the latter in two of the cases was repeatedly demonstrated by centrifuging Mechanical irritation, pressure, necrosis of the renal epithelium and minimal erosions of capillaries produced by a renal calculus accounted for the slight hematuria and the pyuria, aseptic in its character

This does not accord altogether with the views, particularly of the French school, as expressed by Tuffier regarding the ability of the kidneys to entertain without any reaction, aseptic bodies of even large size, and that when septic infection does ensue, it is the result of upward extension of like processes from bladder and urethra, either from a gonorrhea, or unclean catheterization Large and small stones by their presence produce pressure, atrophy and cirrhosis In the specimens here presented, of two kidneys in which large primary calculi are found, the area of atrophy will be seen just a little larger than the measurements of the concrements, which by pressure on the vessels had induced an aseptic infarct and secondary atrophy of the contiguous kidney tissue The kidneys, as a whole, present the picture of interstitial nephritis Although growing into the ureters and filling the pelvis, the stones have produced no destruction of either Yet the inspection of these kidneys assures us that had pleuro-pneumonia not claimed the individual, death must have resulted soon from renal changes which, slow, mechanical and aseptic, were none the less destructive to the secreting elements Regarding the history of this case, nothing is known, although it is almost inconceivable that an examination of the urine would have failed to detect evidence of renal disease

Regarding the channels of septic invasion in renal lithiasis, it appears to be far from certain that the usual route is from below upward, as it doubtless is in the typical surgical kidney developing in the course of primary lesions of the lower urinary tract In two of the recorded cases there never had been a gonorrhea In three of them, instrumentation of the bladder had not been practiced until after the discovery of the pyuria Posner and Lewin[12] have recently made very interesting experimental observations which establish the auto infective nature of many suppurative processes of the urinary passages, and which throw much light upon the cause of suppuration in cases of stone in the kidney where instrumentation had not been practiced The source of infection is the intestinal canal and the channel the general circulation The eliminative function of the kidney has been shown for other infectious diseases In the case of suppurative processes, thus produced experimentally by ligating the ureters and obstructing the intestine, the bacillus found in the kidney was almost always the gas forming organism belonging to the bacterium coli group Pyuria from stone may, therefore be aseptic or, if septic, be the result of infection from the lower urinary tract, or caused by the eliminative function of the kidney

The value of cystoscopic examination, as an auxiliary to the diagnosis of renal calculus can not be questioned The presence of two discharging ureteral mouths assures us better than any other method can, of the presence of two active kidneys It can not exclude the possible existence of a horse shoe or placental kidney with double ureters The certainty of the non existence of vesical disease, as established by the cystoscope of Nitze or of Kelly often makes it certain that the symptoms in a given case are of renal origin In two of the three cases in which it was used, the information was of absolute value in excluding the bladder as the source of the disease and fixing the site of the latter In one of the cases a turbid stream with a few flocculi was ejected from the right ureteral cone, while the urine from the left side was very clear In a second case the left ureteral mouth presented an irritated appearance entirely at variance with the picture of the right side In the third case, one of profuse hematuria, cystoscopic examinations were entirely negative With a wider knowledge of direct catheterization of the ureters, as practiced by Pawlik, and of the better method of direct illumination of the bladder, as practiced by Kelly, the elucidation of obscure renal disease will doubtless be made comparatively easy In the male it may be justifiable to resort to suprapubic incision and direct catheterization of the ureters for diagnostic purpose Quite recently, Nitze has added the ureteral catheter to his cystoscope It is not probable that many will become experts in its use Unfortunately, the cystoscope is of no value in cases where it would be most needed, those in which there is an *indicato vitalis* for operative interference, particularly on account of hematuria and anuria

Anuria is by far the most interesting, as it is also the most fatal, complication of kidney stone Of fifty-six cases collected by Legueu,[13] treated conservatively, sixteen recovered in from three to twenty days; forty or 71 5 per cent, died in from four to twenty five days Autopsies were made in thirty cases In twenty-three, the ureter was found blocked by a stone, while in seven a gross mechanical obstruction was not present In three cases there was only one kidney In six, both ureters were blocked by a calculus In fourteen additional cases, both kidneys contained stones In six, there were other evidences of disease, chiefly suppuration, and in one case the kidney was normal In sixteen cases of anuria, nephrotomy was followed by recovery in ten, the mortality being 37 per cent, as against 71 5 per cent, in cases left to nature Such statistics justify the division of nephro lithotomies into those of choice and those of necessity The conditions may well be likened to those of hernia In the unobstructed, we may choose the time for operative interference, in the strangulated, delay means death Anuria in calculus disease may be the result of a simultaneous obstruction of both ureters, a condition which is quite unusual It generally depends upon obstruction of the ureter of one kidney, and reflex arrestation of function of its fellow, which in the majority of cases is likewise found to be diseased That primary anuria or oliguria may be the result of inhibition of a normal kidney through reflex channels from obstruction in its diseased fellow, or after nephrectomy, has been positively settled by experimental as well as by clinical observations Among the most striking of the latter was one made by Israel[14] in a case of hydronephrosis of intermittent type With each recurrence of increased intra-renal tension in the diseased kidney, the secretion of normal urine was reduced to a minimum Tapping of the hydronephrotic side was immediately followed by the flow of the normal amount of urine from the healthy kidney Pressure upon the kidney tissue or irritation by packing or ligation of the pedicle after nephrectomy, may bring about the same reflex diminution of function of the remaining gland

Death follows nephrectomy from uremia in nearly 50 per cent of cases, (Madelung[15] eight out of seventeen) In most of these it has been presumed that there existed but one kidney For such cases in the future it will be obligatory to explore the side not previously operated upon, and if a kidney be found to make an exploratory incision It is more than probable that the sudden increase in function of the remaining gland is associated with a degree of hyperemia incompatible with excretion from the glomeruli, for which the local depletion of nephrotomy could only be of benefit

Since Bardenheuer's[16] case of nephrotomy for anuria after operation on one kidney was published in 1882, a number of most brilliant successes have been recorded by Lange,[17] Clement Lucas,[18] Meyer,[19] Kirkham,[20] Godley,[21] Israel[22] and Cabot[23] In most cases, as in my own, the operator was relieved of the difficulty of determining the side for operation by the previous clinical history, the limitation of pain to one side, by the presence of tenderness or tumor, or by the previous removal of one kidney Except for the certainty give by the condition last named, there must always be some doubt as to the side to be operated upon In a case of anuria, Israel operated on a hydronephrotic left kidney The patient was not relieved Twenty-four hours later the right kidney was explored and a stone located in the ureter too low for removal at the time The patient did not rally, the anuria having continued nine days Tuffier has properly pointed out that operation should not be deferred on account of doubt as to the side of obstruction, since the chances are always 50 per cent that the diseased kidney will be found, and it might be added, if the chance fails an immediate exploration of the opposite side should be made I have been enabled to find only one case of simultaneous bilateral nephrotomy for calculus anuria The patient died eleven days after the operation[24]

In the surgical treatment of renal calculus, choice must be made between simple incision and extirpation or partial resection of the kidney The localized conditions demanding the latter must of necessity be so rare that for present considerations they may be disregarded Nor would any one resort to the more drastic operation with a comparatively normal condition of the kidney and a small calculus It is in the presence of multiple or of large branched calculi and of a kidney more or less converted into an abscess cavity that the question becomes embarrassing Neither the size conformation nor multiplicity of the calculus ought to weigh in favor of nephrectomy, since with the longitudinal incision along the renal convexity ample room for manipulation can be obtained Nor does the dread of a renal fistula remaining after nephrotomy for calculous pyonephrosis render nephrectomy justifiable, except when cystoscopic examination or the voidance of clean urine renders unimpeachable evidence of the presence of a normal kidney, for in seventy-six fatal cases of renal calculus Leguen found the disease bilateral in thirty-eight and in only four instances was the remaining kidney normal Edel, Clement Lucas,[7] Shepherd reported cases where nephrectomy was followed after four and five respectively, by fatal calculous pyelitis of the remaining kidney These considerations are weighty, irrespective of the inherent dangers of the two procedures, nephrotomy and nephrectomy the mortality of which is decidedly in favor of nephrotomy (nephrotomy 31 per cent, nephrectomy 41 per cent)

With increasing confidence in the relative safety of exploratory nephrotomy, cases of renal calculus will doubtless be earlier subjected to operation and before those destructive changes have ensued which, at the time of operation, force upon surgeons the choice between incision and excision of the kidney With proper care regarding hemorrhage and sepsis, a nephrolithotomy on an otherwise healthy kidney ought to be attended by a mortality of not more than 5 per cent The unequalled tabulation of Newman, in 1888, of forty-two cases without a death, could not be maintained Tait lost one case out of fourteen Within the last three years, deaths have occurred in the hands of such expert operators as Butler Smythe, Jacobson, Knowsley Thornton, Godlee and Israel The immediate mortality of nephrotomy for calculus pyelitis is 33 per cent A stronger plea than these statistics could not be made for an early operation in real or supposed cases of renal calculus

In the technique of the nephrotomies above recorded, I have had an opportunity of comparing the relative values of the oblique and the transverse incisions The advantages of the former have been so decided that I have used it to the exclusion of the other in all of my recent operations on the kidney from the loin Through an ample incision from the middle of the last rib toward the iliac crest, the entire kidney can be drawn into the wound, the pelvis, both surfaces and poles, explored by the finger, and the circulation through it absolutely controlled By continuing the incision downward and forward, all of the suprapelvic portion of the ureter can be brought into view and, if need be, subjected to operative treatment

The renal calculi which I have presented are all small, the heaviest weighing sixty grains In this regard the collection may be interesting, since in all of the cases of which they are the trophies, except one, the exploratory needle was used and without any results In none of my cases was the detection of the stone accomplished by using the needle A stone weighing 556 grains, as removed by Tiffany,[29] or one weighing nearly five ounces, as removed by

through a puncture with a needle Here acupuncture is superfluous, since such stones can be felt through the hardened kidney substance by the examining finger For the detection of small stones a success from acupuncture would be a matter of chance, and therefore, in my judgment, should be discontinued as wasteful of time and fraught with the danger of wounding a larger branch of the renal vessels Palpation of the kidney drawn well into the wound between the thumb and finger on opposite surfaces, will reduce the danger of overlooking a calculus to a minimum In this manner all of the kidney, except possibly the superior pole on the left side, can be thoroughly felt If the calculus even then escapes detection it must be small indeed, deeply imbedded, and discoverable only by incision into the kidney substance

How and where shall this incision be made? In answering this question two considerations must guide us hemorrhage and the final result as to a cure without a renal fistula Hyrtl[31], as long ago as 1869, demonstrated by corrosive preparations that the kidney is naturally divisible into anterior and posterior segments, the blood supply of each being independent of that of the other, after the vessels supplying them have been given off from the main trunk of the renal artery Along the convexity of the gland, therefore, the longitudinal section made as in an autopsy would be least likely to wound a larger vessel In four operations in which I have resorted to this sectional incision the hemorrhage, while free, was parenchymatous in all To reduce even this to a minimum the incision should not be made longer than is needful for the introduction of the exploring finger, until the kidney has been brought far enough into the wound to make feasible the compression of its pedicle by padded clamp, or preferably by the fingers of an assistant This makes the hemorrhage *nil*, while the search for the stone progresses Such compression has been experimentally maintained for half an hour (Tuffier) in animals without other effect than a transitory albuminuria In an operation for stone, compression would rarely be needed during more than five minutes The length of the incision must vary with the difficulties encountered in searching for and removing the stone With a finger introduced into a kidney through a small incision in the center of its convexity, or two incisions nearer the poles, the separate calices can be as methodically explored as are the fingers of a glove Only after failure of this method to find a stone does the complete division of the kidney from end to end, for ocular inspection, as in a post-mortem examination seem justifiable Incisions into the renal pelvis for exploration alone are to be avoided because of the obviously greater danger of hemorrhage and the dread of lacerating the pelvic wall beyond repair

Renal fistulæ are seen oftener after incisions into the pelvis than after nephrotomy proper, the ratio being as 20 to 3 Therefore, stones found in the pelvis of the kidney should, wherever possible, be removed through an incision in the cortex In one of my cases a stone was found embedded near the posterior surface In such a case a radial incision on to the stone, passing between the blood vessels, is ample for its removal and not attended by severe hemorrhage

For operative wounds of the kidney, primary union should be aimed for, as scrupulously as in wounds elsewhere Drainage of the kidney is therefore un-called for except for pyonephrosis, where the ureter is manifestly incompetent In one of my cases the presence of a drainage tube gave rise during seventy two hours to very severe pain, and was the direct cause of a fistula which continued to discharge during three months before it finally closed In nephrolithotomy on an otherwise normal kidney the ideal operation is terminated by closely suturing the wound in the kidney with alternate deep and superficial cat gut sutures, traction on which should only be sufficient to keep the edges in apposition Experimentally and clinically, such sutures have been shown to be practically innocuous to the kidney at large and that the resulting scar involves only the immediate vicinity of the line of incision and of the sutures, provided larger vessels are not included Experiments by Paoli,[32] Tuffier[33] and Barth[34] have shown that, particularly in the incision along the convexity secondary degenerative changes are reduced to a minimum Griefenhagen had an opportunity to examine two kidneys treated by sutures after operation A linear and depressed cicatrix narrowing toward the pelvis and firmly adherent to the capsule was present in each kidney as the only vestige of a previous incision One patient died of apoplexy six months after the operation In the other the kidney had become movable and at times incarcerated in a ventral hernia making nephrectomy necessary Suture of the kidney first practiced by LeDentu, in 1889, has been performed successfully by Morris Israel, Fenger, Bernays, Tuffier, Garard, Marchant and Rose

Primary union should likewise be sought for when the pelvis or ureter has been incised catgut Lombert suturing being used The probability of success is less than in nephrotomy proper In one of my cases thus treated the result was perfect Meyer and Sanger have recently reported similar successes A slight objection to primary suture is the severe pain of a colicky nature entailed by the passage of small blood clots through the ureters and lasting from twenty-four to forty-eight hours

The only fatal result which I have had to record from my nephrotomies for stone was directly attributable to intestinal obstruction from excessive packing of the wound with gauze This obstruction was the result of paralysis from pressure on the intestinal nerves in their course in the meso colon and behind the posterior parietal layer of the peritoneum This is the second case of this nature to be recorded, the other occurred in the hands of Israel There probably have been other deaths erroneously ascribed to peritonitis after operation on the kidney and in which wounding and infection of the peritoneum have been supposed to be the causes of death In two of the cases operated on since this unfortunate result, I have contented myself with such drainage as could be obtained by a strand of silkworm gut removed with the first dressing

The concluding act of every operation upon the kidney must look toward fixation of the gland in its normal position Where the fat capsule has not been interfered with much and the kidney has been little disturbed in its relations in the process of searching for and removing the stone, nature can be relied upon to secure its proper fixation In every case, however, in which the gland has been removed from its bed and drawn into the wound, either for purposes of exploration or operation, a *sine qua non* of an undisturbed and lasting recovery is the fixation of the kidney in its position by a number of catgut or, preferably, of silkworm sutures A number of recent writers have suggested that the sutures used for closing the renal incision can likewise be employed for the fixation of the gland My own preference has been for the silkworm gut By two sutures through the kidney, the capsule proper, and the fat capsule on the one hand, and the lumbar fascia and the periosteum of the last rib on the other, the kidney can be firmly and satisfactorily anchored until such time as post operative adhesions result One of the safeguards against mobility of a kidney is, in my judgment, prolonged rest in bed of at least five to six weeks before the patient resumes the erect posture In the triumph of finding a stone, the precautions against a movable kidney might readily be overlooked The danger of allowing the gland to take care of itself has been shown in a number of cases, and notably in the one of Griefenhagen already referred to, where secondary nephrectomy became necessary

In conclusion, the following theses are presented for your consideration

1 An absolute diagnosis of stone can not be made

2 Nephro-lithotomies may be divided into those of necessity and those of choice In anuria and profuse hematuria delay is fatal

3 Pyuria and microscopic hematuria as indications of beginning destructive changes, are positive indications for operative exploration

4 The oblique incision is to be preferred for the ease with which it permits the exploration of the entire kidney

5 Acupuncture is not to be relied upon

6 Incisions should be made along the convex border and only when the circulation is controlled by digital compression

7 Incisions into the pelvis for exploration and for removing a stone are to be avoided

8 Primary nephrectomy for stone should be reserved for extreme cases

9 Primary union by suture, where feasible, makes nephro lithotomy an ideal operation

10 Tight packing of the kidney wound and perirenal space endangers the nerve supply of the colon

11 Nephrorrhaphy should form the closing act of every operation which has seriously disturbed the relations of the kidney

[1] Gross, Medical News 1886, II, p 677

[2] McCosh, N Y Medical Journal, 1888, vol XLVIII, p 406

[3] Chavasse London Lancet 1887 I, p 408

[4] Keyes, N Y Record, 1890, vol XVII, p 141

[5] Parkes JOURNAL AMERICAN MEDICAL ASSOCIATION, 1891 I, p 51

[6] Guyon Leguen Annal des Malad d Organ Genito Urin, 1891 IX, p 5

[7] Bruce Clark, Lancet 1891 II p 984

[8] Tiffany, Trans Amer Surg Assoc VII p 167

[9] Israel, Berl Klin Wochensch 1891, p 224

[10] Sabatier Rev de Chirurg 1889 p 62

[11] Senator, (Uber Renale Hemophilie) Berl Klin Wochensch. 1891, vol XXVIII p 1

[12] Posner and Lewin, Berl Klin Wochenschr 1895, p 183

[13] Leguen, These de Paris, 1891.

[14] Israel Lung Arch f Ch, 1894 vol XLVII, p 420

[15] Madelung Arch f Kl C p 715

[16] O Theien Nephrotomie wegen Anurie Centr f Ch 1882 p 185

[17] Lange, Medical News, vol XLVIII p 60

[18] Clement Lucas Proceed Royal Med Chir Soc 1890

[19] Meyer Annals of Surg, vol XV p 286

[20] Kirkham Lancet, 1889 I p 595

[21] Godlee Boston Med and Surg Jour 1891 CXXIV p 64

[22] Israel, loc cit

[23] Cabot Boston Med Jour 1893, vol CXXIX p 213

[24] Turner Trans Clin Soc Lond XXIV p 151

[25] Edel Arch f Clin Chirurg XL, p 240

[26] Clement Lucas loc cit Boston Med and Surg Jour vol CXXIV p 63

[27] Shepherd N Y Med Record XXXVIII p 125

[28] Tiffany Trans Amer Surg Assoc 1888

[29] Shepherd, Medical News vol I p 458

[30] Gay Boston Med and Surg Jour CXXVII p 131

[31] Hyrtl Topog Anat Bd I p 834

[32] Paoli cited by Barth

[33] Tuffier Arch Gen de Med 1889 p 325

[34] A Barth Lung Arch f Ch vol XLV p 1

[35] Greifenhagen Lung Arch f Ch vol XLVIII p 922

[36] Le Dentu Ann de Malad des Organ Genito Urin vol VII

ORIGINAL ARTICLES.

CONSERVATIVE SURGERY ON THE BATTLE-FIELD AND FIRST AID TO THE WOUNDED

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CHICAGO.

Conservatism will characterize the military surgery of the future. The two great sources of danger that face the wounded soldier upon the battle-field—hemorrhage and infection—will be greatly diminished by additional and improved hemostatic measures, and the more general and effective application of the principles of aseptic and antiseptic surgery. Mutilating primary operations will be limited to injuries with extensive destruction of the soft parts and complications involving large vessels and nerves which in themselves are sufficient to arrest the nutrition of the injured limb. Gunshot injuries of bones and joints will no longer determine the propriety of primary resection and amputation, and the danger of penetrating wounds of any of the large cavities of the body will be greatly diminished by the prompt employment of measures calculated to prevent septic infection, and other immediate and remote complications. I take it for granted, that I am ex-

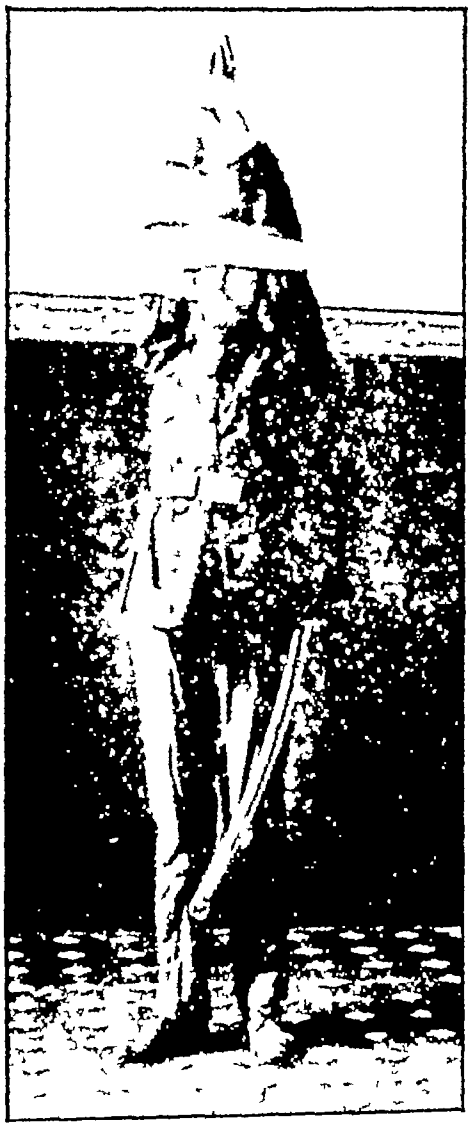

Fig. 1.—Elevation of the upper extremity in the treatment of hemorrhage.

topics which will engage the attention of the military surgeons of future wars, and which will enable them to reduce the death rate, diminish suffering, save limbs, and prevent painful remote complications in case of bullet and other wounds which heretofore demanded primary mutilating operations, or, if treated upon conservative plans, subjected the soldier to imminent danger to life from septic complications.

Conservative surgery on the battle-field consists in rendering prompt and efficient aid to the wounded. To accomplish this successfully is the desire and aim of the military surgeons of all civilized nations. A well-trained hospital corps is now looked upon as an essential constituent of every modern military body. In our own country the Army and Navy, as well as the National Guards of the different States, are making ample preparations for effective first aid to the wounded, in the event of war, by the careful training of soldiers selected for Hospital Corps service. The practice of conservative surgery upon the battle-field will, of necessity, be intrusted largely to the educated, well-trained, non-combatant soldier. It is the character and efficiency of his work that will determine the fate of the wounded. I shall limit my remarks to the discussion on the work to be done by the surgeon and his helpmates, the members of the Hospital Corps, in caring for the wounded upon the battle-field, which will embrace: 1, the treatment of hemorrhage; 2, to counteract shock; 3, primary dressing; 4, immobilization; 5, transportation.

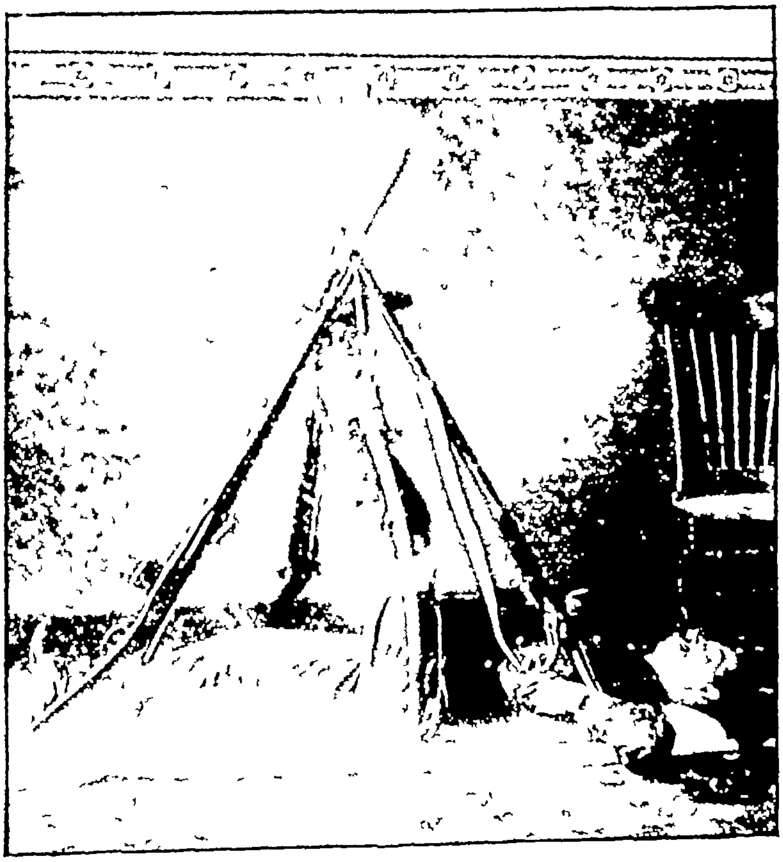

Fig. 2.—Gun stack for elevation of the lower extremity.

Temporary Hemostasis.—A large percentage of deaths upon the battle-field has been caused by the immediate result of hemorrhage. It is to be expected that the small calibre bullet, owing to its greater velocity and penetrating power, will cause rhage than the round or [illegible] conical bullet of the past, because the wounds inflicted by it resemble more nearly incised than contused wounds as was formerly the case There can be but little doubt that the old weapon produced wounds which were more liable to be followed by secondary hemorrhage, induced by the sloughing of the large area of contused tissue surrounding the tubular wound made by the bullet The absence of the extensive area of contusion and laceration in wounds of large blood vessels made by the new bullet will increase the danger from primary hemorrhage and will, consequently, demand more frequently and urgently in their treatment the employment of prompt and efficient hemostatic measures The treatment of hemorrhage upon the battle field will be governed by the size and character of the vessel wounded and the part or organ injured A distinction between arterial and venous hemorrhage is impracticable as far as the immediate treatment by non-professional assistants is concerned Ligation of a blood vessel upon the battle field, either at the point of injury or in its continuity, will be done only in exceptional cases In the majority of instances this part of the treatment will be consigned to the surgeons in charge of the first dressing station or the field hospital In rendering the first aid to the wounded, hemorrhage should be diminished or arrested by such means and measures as are always at hand, or that can be readily extemporized and can be safely and efficiently applied by members of the Hospital Corps

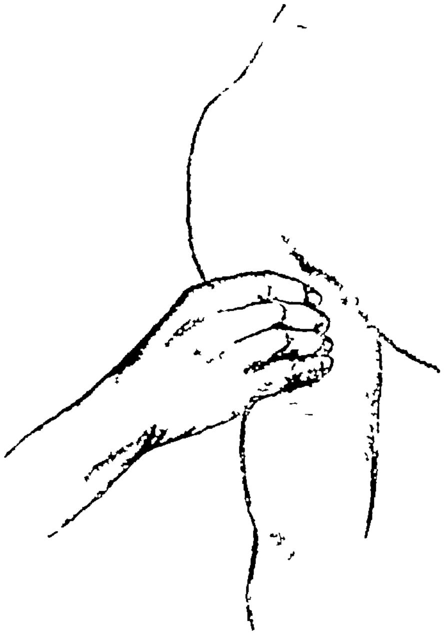

FIG 3 —Digital compression of brachial artery

Elevation of Limb —The force of gravitation answers an exceedingly useful purpose in arresting hemorrhage from the smaller vessels of the extremities By placing the injured limb in a vertical position, intravascular pressure is so much diminished that spontaneous arrest of hemorrhage is often effected by this simple procedure, even when a vessel the size of the palmar arches is injured, but its greatest value and widest range of application will be in the treatment of venous and parenchymatous hemorrhage The elevated position should be maintained for some time after the hemorrhage has ceased, or until more efficient measures can be employed The manner of effecting and maintaining elevation as a hemostatic agent is shown in Figs 1 and 2

Digital Compression —In the treatment of hemorrhage from large vessels accessible to digital compression this method offers a reliable means of controlling hemorrhage The members of the Hospital Corps are familiarized with the exact location of the principal arteries of the extremities and the method of arresting hemorrhage by digital compression

The compression must be continued uninterruptedly until the bleeding vessel can be tied, or pressure can be replaced by elastic constriction or the antiseptic tampon

Flexion —Forced flexion as an hemostatic agent was introduced by Adelmann Genuflexion is a prompt and efficient method of arresting hemorrhage from the popliteal artery and its branches Brachial hyperflexion answers the same purpose in the treatment of hemorrhage from the brachial artery from a point opposite the elbow joint or any of its branches below this point

In making genuflexion, the belt, suspender, gunstrap, or triangular bandage should be passed through a slit in the shoe or boot above the heel, after which the ends are firmly tied over the base of the thigh where it is fastened to the pants or drawers with a safety pin Forced flexion of the forearm can be made with an ordinary handkerchief

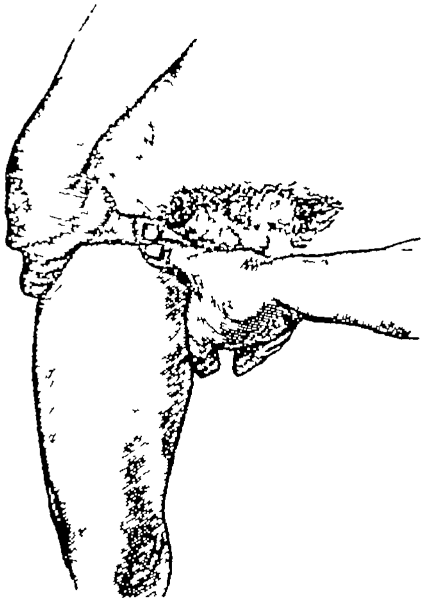

FIG 4 —Digital compression of femoral artery

Elastic Constriction —Elastic constriction, properly applied, is a safe and absolutely reliable hemostatic agent in preventing and controlling hemorrhage from any of the vessels of the extremities Introduced and popularized by the greatest military surgeon of the present time, von Esmarch, it is applied wherever surgery is practiced, but its employment is of special value upon the battle-field The elastic constrictor has displaced almost entirely the ordinary tourniquet Preliminary compression of the limb by an elastic bandage is unnecessary, as simple elevation continued for a few moments will render the limb sufficiently bloodless for all practical purposes The harmful effects of elastic constriction improperly applied are temporary and even permanent paralysis of one or more of the principal nerves injured by the

Internal Hemorrhage —The prompt and proper treatment of internal hemorrhage will constitute one of the crowning triumphs of surgery upon the battle field The direct treatment of the injured vessels by early invasion of any of the three large cavities of the body will be the means of saving many lives which heretofore were doomed to certain death This part of the surgeon's work will be done at the first dressing station or the field hospital

What can be done behind the fighting line in such cases to bridge over the time until such services can be rendered to the injured? In hemorrhage from the intracranial vessels caused by bullet wounds, it would be dangerous to plug the wounds of entrance and exit as the accumulation of blood in the cranial cavity would result in death from cerebral compression The escape of blood should be favored by inserting into the track made by the bullet a strip of aseptic or iodoform gauze This will not only serve a useful purpose as a capillary drain but by bringing in contact with the injured vessels an aseptic foreign substance the spontaneous arrest of hemorrhage by thrombosis is favored The gauze drain should be secured on the surface of the wound with a safety pin and the wound or wounds protected against infection by an antiseptic dressing retained in place by the triangular bandage By this treatment many cases will reach the field hospital for a timely intracranial operation In bullet and stab wounds of the chest, complicated by hemorrhage from the inter costal arteries, the antiseptic tampon is the proper treatment Packing of the tubular wound with an antiseptic hygroscopic material will not only succeed in arresting the hemorrhage but will serve at the same time as an efficient capillary drain and protect the cavity of the chest and its contents against infection In hemorrhage from injuries of the organs of the chest, firm circular compression of the chest directly over the wound already protected against infection by an antiseptic dressing constitutes a valuable indirect hemostatic measure

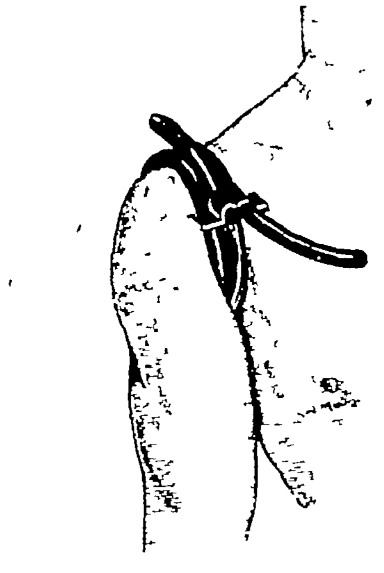

FIG 7 —Elastic constriction of upper extremity (After Seydel)

Immobilization of the chest wall by circular compression diminishes the functional activity of the lungs, and in doing so exerts a favorable influence in arresting hemorrhage from this organ The cartridge belt or gunstrap can be used to the greatest advantage in limiting the respiratory movements of the chest I believe that this conservative treatment of penetrating wounds of the chest will yield better results than injection of filtered air, absorbable aseptic solutions, or treatment by rib resection, free incision, and attempts to ligate the bleeding vessels In penetrating wounds of the abdomen the prime indication in the future treatment of such injuries will be to prevent death from hemorrhage Visceral wounds of the abdominal organs, notably the liver, spleen and mesentery, usually give rise to profuse and often fatal hemorrhage The hemorrhage is more frequently venous and parenchymatous than arterial In my address last year before this Association, I urged the importance of early operative interference in such cases, and mentioned hemorrhage and the direct treatment of visceral wounds as ample indications to justify prompt, active interference In injuries of vessels below the bifurcation of the abdominal aorta, attempts should be made to prevent death from hemorrhage upon the battle field by resorting to the use of some sort of compression with a view to interrupting the circulation in the aorta above the bleeding point Esmarch's method, shown in Fig 11, can be extemporized in a few moments, as it requires no instrument of special construction and meets the indications more completely than the various instruments devised for this purpose

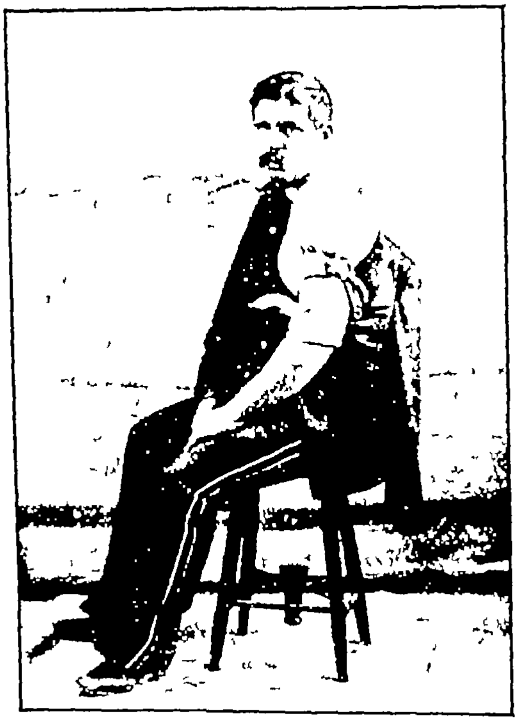

FIG 7 a.—Suspender constriction of arm

The method of Brandis is equally simple and efficacious As hemorrhage from any of the vascular organs and large vessels of the abdominal organs requires prompt treatment, and as in large engagements a considerable length of time will necessarily intervene between the first aid and the permanent arrest of hemorrhage by laparotomy, and as in many instances the location of the wound is outside of the range of successful treatment by compression of the abdominal aorta, it appears to me that in such cases and the point of the glass tube is inserted and fastened in place by a ligature previously inserted Before inserting the glass tube the precaution is taken to fill it and the rubber tube with the saline solution to prevent the introduction of air The saline solution to be used should be heated to the temperature of the body and infection is prevented by using only sterilized water for the solution

The quantity of solution to be used to fulfill the therapeutic indications will vary from 500 to 1,500 grams, 1,000 grams being a fair average dose, and for the preparation of which the necessary quantity of powder should be kept in readiness If the symptoms of improvement which follow the employment of a saline infusion should come to a standstill or disappear, it may become necessary to repeat the intravenous injection in the course of an hour or more The same object gained by intravenous injections of salt solution is attained more indirectly and with greater loss of time by copious hypodermatic and rectal injections

(To be continued)

MODERN URETHROSCOPY AND CYSTOSCOPY —CATHETERIZATION OF THE URETERS AND INTRAVESICAL REMOVAL OF TUMORS

Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association at Baltimore, Md May 7 10, 1895

BY FERD C VALENTINE, M D

NEW YORK

Even those who have not gone very deeply into the recent literature of genito-urinary surgery, can not fail to be impressed with the correct idea that the title of this paper encompasses more than can be said in the time allotted at any meeting Indeed, the title suggests volumes, conjures up visions of a very large library and actually covers a vast experience on the part of those who have given special attention to this most important branch of the healing art The greater portion of this experience can not be written, for it depends upon practice of the hand and eye For these reasons this paper can practically be little more than a demonstration of instruments

I beg leave to divide this demonstration into four parts, omitting historical considerations entirely

1 *Modern Urethroscopy*—The instruments I have the privilege of showing are

The Posner urethroscope is the simplest form of those now in use It is practically a prolongation of the old meatoscope, except that it has no obturator and has a tube eight and one-half centimeters long It is of glass, silvered within and blackened without It is made in two forms, one with the tube vertically cut off, the other terminating obliquely In practice, after being lubricated, preferably with glycerin, it is inserted into the urethra and any moisture obstructing vision is dipped out with either metal or wooden applicators wound with absorbent cotton The illuminating source for the use of the Posner urethroscope may be either a head-mirror and lamp, or gas, or an electric light thrown in at the top of the funnel

While the Posner urethroscope is necessarily limited in use by its inevitable shortness and other causes to be mentioned later on, it is certainly a very useful substitute in circumstances in which more extensive apparatus is not at hand One case is vividly before my mind in which it served as well as any more complicated instrument possibly could have done It was shown me last winter by Dr Arthur Lewis, Professor Posner's assistant at the Berliner Allgemeine Poliklinik This patient had had a urethral discharge for eight years following an attack of urethritis All manner of treatment proved unavailing The patient, an artistic designer, had fallen into that mental depression we so frequently find associated with and resultant upon affections of the genito-urinary apparatus The man's mind was certainly in a state of decided melancholia The first attempt at illuminating the urethra revealed a superficial ulcer about one centimeter long by half a centimeter wide, situated about five and one-half centimeters behind the fossa navicularis Two applications of silver nitrate a week apart, sufficed to entirely cure the case

Grunfeld, of Vienna, devised an urethroscope about one fifth longer than Posner's It differs also in being of metal, blackened within and having an easily removable obturator

The Casper urethroscope is a more extensive apparatus, based, however, essentially upon the same optical principles as are nearly all other instruments for urethral exploration The tubes are of metal and longer than those designed by Posner, they have an obturator and at their visual end have a rim fitting into a handle, provided with an ingenious arrangement of condensers and prism by which electric light is reflected into the urethra This entails quite a weighty handle, which I do not doubt will be remedied in the future by its designer

One objection to the use of this instrument is that it must be learned The beginner is obliged to exclude reflexes and to overcome the hazy mist which at first presents to his vision, and only when he has overcome these can he see the urethra

The requirement of a light, easily manageable handle, seems to have been anticipated in William K Otis' most cleverly devised urethroscope It has been recently described in several journals, and therefore need not be again discussed here With no desire to sin on the score of excessive patriotism, I can not but be pleased with the marked evidences of American ingenuity Otis' instrument presents

Posner, Grunfeld and Casper use wooden "Tupfer" for the purpose of removing excessive moisture from the field of vision These "Tupfer" consist of "wood wire," which is nothing but the sticks drawn for matches, but not cut into match length Cotton wound around their ends, complete this part of the apparatus

The instrument, however, which seems to cover all the requirements of modern urethroscopy, is the Nitze-Oberlaender urethroscope It consists, essentially, of a battery which provides light urethral tubes of various calibers and a light-carrier which is inserted into these tubes

By means of the light-carrier, the source of illumination is placed at the points to be examined, thus fulfilling the essential requirement, in obedience to the law that visual acuity is in proportion to intensity of illumination It must be self-evident that the nearer the object to be seen is to the source of light, the more clearly it is perceived To enable the urethra to hold an unprotected electric light within it, an ingenious arrangement of two small tubes allows a current of cold water to flow around the light Kollmann, of Leipzig, experimentally determined that in the first thirty seconds after insertion of the light, the temperature of the urethra rises one and a half degrees and there remains stationary This gives no discomfort whatever to the patient A simple rheostat governs the amount of light required in each case The only objection which can be properly urged against this instrument is that excessive moisture can not be dipped from the urethra except by previously removing the light-bearer This, however, is so trifling a matter, that it hardly merits serious consideration

The space occupied by the light bearer in the urethral tube is so small that it practically does not obstruct vision Moreover the light being within the urethra at the very tip of the tube, enables the use of a much longer instrument, indeed, there is no difficulty whatever in using the ordinary Oberlaender tubes for examination of the posterior urethra, practically a species of cystoscopy

Since Nitze devoted his remarkable genius more to the development of cystoscopy, from which so many astonishing things have arisen, some of the profession concluded that urethroscopy was thereby condemned as a mere scientific diversion But Oberlaender showed that the urethra is still a most important organ, fully meriting the profound study he gave it The improvements he wrought led to a recognition of the pathologic significance of the details, such as gaping gland orifices, changes in color, lack of striation, smoothing out of folds in the mucous membrane, etc , and made it possible to view intelligently that bugbear of specialists, chronic gonorrhea The far-reaching results of gonorrhea, both to the patient himself and to women, need but be mentioned here

If Oberlaender had done nothing else than describe urethral pathology, modify the Otis dilator and offer further methods for the treatment of urethral diseases, the merit of his work would be incalculable At a proper time I hope to enter more fully into the details of this matter, which can be but sketched here

2 *Cystoscopy* —It is too late in the scientific day to discuss the value of cystoscopy No one can deny that visual exploration of the interior of the bladder is of incalculable diagnostic advantage beyond palpation with tactile instruments The instrument which Nitze devised has a very short beak, consisting of a removable Edison mignon lamp This is attached to the shaft, immediately beyond where it has a prism adjusted with such optical neatness as to throw the illuminated image directly into the line of vision

The optical arrangement of lenses within the shaft and at the visual end of the Nitze cystoscope, are calculated to give a clear image, not only of the vesical mucous membrane, but also of neoplasms as well as stones within the bladder Several cases present themselves to memory in which stones were so encapsulated or held by trabeculæ that even the most delicately managed sound could not reveal them They could readily be located by means of the cystoscope

In renal diseases, however, the cystoscope is of surpassing importance The fact that a patient passes blood or pus from the kidneys with the urine, by no means indicates whether the right or left kidney is diseased Watching the mouth of the ureters through the cystoscope, will show which kidney extrudes the vitiated urine and thus save unnecessary nephrotomy One case especially, among those in which I had the pleasure of assisting Nitze, demonstrated the extraordinary value of cystoscopy This was an apparently healthy, vigorous man, who occasionally passed bloody urine The surgeons who had explored his bladder found no cause for this symptom Palpation of the renal regions revealed nothing At one time, when the patient bled, his bladder was cystoscoped and it was found that the blood came from the right ureter An exploratory operation at first exposed no kidney , search revealed that its lower pole was *above* the upper margin of the twelfth rib, rendering palpation impossible On drawing down the organ and removing it, it proved to be three times its normal size Microscopic examination showed it to be carcinomatous in all its parts When I left Berlin on April 9, the patient was making an eventless recovery Were this the only case of the kind, it would suffice to establish the very great importance of cystoscopy for diagnostic purposes

The one opportunity for error in cystoscopy lies in the possibility of exaggeration The optical apparatus necessarily magnifies, and therefore when the tip of the instrument is too far removed from the point or object under examination it appears enlarged This, however, may also be advantageously employed in determining the character of a pathologic product or foreign body How clearly these are visible is well shown by the beautiful pictures in Nitze's "*Kystoskophotographischer Atlas*" These were taken by his photographing cystoscope

The technique of cystoscopy is very simple, albeit wearisome Very few cases can be properly prepared and examined in less than half an hour The bladder is washed with a boric acid solution until the wash water flowing out through the catheter is perfectly clear , this may require a very long time Then the bladder is filled with 100 to 250 grams of boric acid solution and the cystoscope, being sterilized and lubricated with glycerin is inserted in the same manner as the Mercier catheter is used In sensitive cases the insertion of the cystoscope may be preceded by an *injection* of cocain in a weak solution By then gradually advancing the rheostat of the light battery a sufficiency of light is obtained Rapidly turning on the light endangers the lamp, which from excessive current may suddenly burn out and require an entire repetition of all the steps of the procedure

Several modifications of the Nitze cystoscope have recently been placed upon the market Among these Lohnstein's with a doubly curved beak, appears to unnecessarily increase the intravesical length of the instrument and to make the distance between the point examined and the prism too great Winter's cystoscope for the female bladder is merely a shorter cystoscope than Nitze's

3 *Catheterization of the Ureters* —When Dr Max Nitze, of Berlin, claimed priority in successful catheterization of the ureters in the male in No 9 of the *Centralblatt für Chirurgie* for 1895, he reserved for himself a discussion of the present and future diagnostic and therapeutic value of urethral catheterization In view thereof, and in view of the magnificent work done by Howard A Kelly, of Baltimore, little beyond a demonstration of the instruments

Kelly's and Pawlik's methods have rendered catheterization of the ureter in the female rather easy but the attempts made in the male by Brenner, Poirier and Boisseau du Rocher, have by no means proved [illegible] with any degree of certainty

Nitze's cystoscope for catheterizing the ureters, recently described, is small sized (Charrière 19) cystoscope running through and easily turning in a outer tube The latter is open at the outer angle of the end of its Mercier bend Near the visual end of the outer tube a small, short one enters it This is not sufficiently large to permit the catheter or bougie for the ureter to pass through it and the [illegible], from the tip of which it can be protruded It is inserted into the bladder closed en bloc When in place, the knob on the outer rim, indicates as with other cystoscopes, the position of the beak The inner tube, or small cystoscope which contains the lamp and prism, is pushed forward, and the whole apparatus turned until the mouth of the ureter is clearly seen through the visual end The catheter is then propelled by the fingers until its point enters the mouth of the ureter. This is the most difficult part of the whole procedure Once accomplished, the catheter can be easily pushed into the ureter, on toward the pelvis of the kidney Then holding it firmly in place, cutting off the light, drawing the inner cystoscope into the outer tube, the metal part of the apparatus can be withdrawn, leaving the catheter in the ureter, projecting through the bladder and the urethra In normal cases the urine, free from vesical secretions, will then spurt or drip from the orifice of the catheter, two to five drops every minute, minute and a half, or two minutes

Incidentally it may be mentioned here, that the inner tube, before described, can be used for cystoscoping children's bladders

Casper's cystoscope for catheterizing the ureters is a somewhat more complicated and heavier instrument than Nitze's Its beak is doubly curved, somewhat like Lohnstein's modification of Nitze's instrument The lamp and terminal prism are considerably larger than Nitze's, for which the author claims a wider visual field The ocular end of the shaft has an extra set of prisms in the optical apparatus, which places it beneath the shaft Thus the opening directly into the shaft is left free for the entrance of the catheter When it has penetrated the ureter to the desired degree, a bit of rubber tubing at the orifice of its entrance is removed Then a ring at upper part of the instrument is drawn toward the operator It is attached to a thin metal slide, which forms the upper third of the catheter canal On removing this entirely, the catheter is held by the ureter above, the part lying in the bladder is then freed and supporting the end projecting from the meatus, the cystoscope is withdrawn Thus the catheter is left *in situ*

4 *The Intravesical Removal of Tumors*—Unfortunately, through circumstances unnecessary to relate here, the manufacturer of Nitze's instruments could not provide me with an operating cystoscope in time to demonstrate it at this meeting I am therefore obliged to crave your indulgence for being compelled to use a drawing, which, at best, is an unsatisfactory substitute

It is a cystoscope with wires to snare off tumors within the bladder The wire can be used cold, by mere constriction, or it can be rendered incandescent to sear as it strangulates The tip of the instrument has a small platinum coil which can be rendered incandescent also, and thus used to cauterize the bases of tumors, arrest hemorrhage, etc The instrument also has diminutive forceps, by which small fragments of tumors, or stones, or other foreign bodies can be grasped and withdrawn

Other genito urinary instruments and procedures, not being within the scope of this paper, I shall take pleasure in demonstrating privately to those interested Among these are Nitze's irrigation and lithotomy cystoscopes, Oberlaender and Kollmann's urethral instruments, Janet's intravesical injector without a catheter, for the treatment of gonorrhea, and many other new genito urinary devices

This being the first occasion which I have had to publicly express my gratitude for many special attentions shown me in Germany, it affords me great pleasure to convey most sincere thanks to the eminent genito urinary specialists there for all they did to advance my studies I must mention particularly among these gentlemen, Prof Carl Posner, Dr Max Nitze, Dr Leopold Casper, Dr Hans Wossidlo, Dr Arthur Lewin, Dr Ernest R W Frank, of Berlin, Dr Arthur Kollmann, of Leipzig, and Dr F M Oberlaender, of Dresden

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THE RADICAL CURE OF HYDROCELE

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md, May 7-10, 1895

BY D C HAWLEY, A B M D

ATTENDING SURGEON MARY FLETCHER HOSPITAL ATTENDING SURGEON FANNIE ALLEN HOSPITAL SECRETARY VERMONT STATE MEDICAL SOCIETY

BURLINGTON VT

The only known method of effecting a certain, absolute and permanent cure of a hydrocele, is to bring about the complete obliteration of the cavity of the tunica vaginalis[1]

The methods usually employed by surgeons at the present time for the radical cure of hydrocele, are the injection method and the method by open incision The treatment by injection fails in some cases, from the fact, no doubt, of its being improperly or poorly done Again, it often fails in cases of very large hydrocele, and invariably in cases in which there is much thickening of the tunic, thereby preventing perfect collapse of the same

Treatment by iodin injection is usually painful, and is attended with intense swelling and tenderness of the scrotum Three to five days must be spent in bed, and three or four weeks are often necessary for perfect recovery

Injection of carbolic acid is, in my experience, less painful and more efficacious, but requires about the same length of time for a cure

In the operation by incision, as usually practiced and as described in the text-books, an incision about two inches long is made along the anterior surface of the tumor, which thoroughly opens and drains the sac The edges of the tunica vaginalis are stitched to the skin by catgut or silk sutures, and a rubber drainage tube is inserted, or the cavity is packed with gauze

The after treatment consists in a daily dressing when the tube is gradually shortened or the packing is renewed The patient must remain in bed for ten or twelve days, and eighteen to twenty-eight days o more are required for a cure in most cases of operation by incision

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[1] Treves

I wish now to describe briefly, a method which I have employed for two or three years past in my service in the Mary Fletcher Hospital and in private practice I consider it almost unnecessary to say, at the present day, that the operation must be done aseptically

The usual incision, two to three inches in length, is made along the anterior surface of the tumor, taking care always not to injure the testicle The fluid is allowed to escape and the sac is irrigated The margin of the tunic is stitched to the skin by six or eight black silk sutures I use black silk, as it can be more readily found and removed The interior of the sac is now irritated over every part of its surface by being rubbed with the finger tips This is not done roughly, but gently and thoroughly The sac is packed with strips of iodoform gauze, the usual dressings applied and the patient kept in bed At the end of twenty four hours the strips of gauze are removed and the cavity is irrigated The entire surface of the tunica vaginalis will now be found to be covered with inflammatory lymph Further packing or drainage is not used

The opposing surfaces of the sac are now brought into thorough coaptation by compression, applied by means of strips of adhesive plaster A light dressing of gauze is placed over the wound of incision and the adhesive strips are applied systematically around the scrotum over this dressing, so as to produce firm and even compression The dressing should be inspected occasionally at first to see that it does not become loosened If it does so, it must be reapplied at once At the end of four or five days the dressing is taken off and the silk sutures removed

At this time the cavity of the sac will be found to have been obliterated, the opposing surfaces having united by adhesive inflammation Should a sinus be found, which, however, has happened but once in any of my cases, it should be treated on general principles and allowed to heal from the bottom The wound is again dressed and mild compression continued Two or three more dressings are all that are required, and at the end of six to twelve days the wound will be entirely healed A slight dressing may be necessary for a few days to prevent chafing, and a suspensory should be worn for several weeks

The strips of gauze used for packing should be counted and a note made of the number, to avoid the possibility of one of them being left at the time of the first dressing But little swelling follows the operation, and I have seen no cases in which orchitis has supervened The patient need be kept in bed but three or four days, but the scrotum should be suspended whenever he is allowed to get up

Case 1 —George W , age 54, carpenter by trade, was admitted to the Mary Fletcher Hospital with a history of double hydrocele having existed for ten or twelve years Both had been tapped several times On Oct 16 1894, I operated on him under ether, in the manner described The left hydrocele contained a pint of fluid and the right more than a pint The case was dressed the next day, when the packing was removed and the surfaces of the sacs were brought together and held in apposition by a well fitting dressing This was left five days and on October 22, six days from the time of operation, the case was again dressed and both sides were found entirely healed, excepting the incisions through the scrotal tissues There was no pus Dressed again on October 24, or the eighth day, and the patient allowed to go home as he resided in the city, with instructions to return in four days He returned as directed on October 28, when both incisions were found entirely healed, and he was discharged cured—twelve days from the date of operation He went to work at once at his trade, having lost less than two weeks' time At the present writing he is perfectly well, with no sign of a return of the trouble

Another case of single hydrocele containing a half pint of fluid was operated on by the same method nearly two years ago, and was well in six days, and no sign of a return of the hydrocele up to the present time In one case, a small sinus was found at the second dressing, which was one inch in depth and a little larger than a good sized probe This closed perfectly in three or four days

Every case operated on thus far, by this method, has been successful

The advantages claimed for this operation over any other, in all cases of old or large hydrocele, are the shorter duration of the treatment, together with the probability of a radical cure in every case

The treatment by the injection method requires a long time for the restoration of the parts to their normal condition, while at the same time the result is uncertain, for the reason that the inflammatory process set up by the injection may not be sufficient to produce a cure On the other hand, it may be so severe as to cause extreme swelling and much suffering

The special objection to the open incision method is the long duration of the treatment The patient must remain in bed from six to twelve days, which time measures the duration of the treatment by the method I have described

This method is, I believe, applicable to all cases requiring an operation It is not open to the objection that the patient must take an anesthetic, for if there is any special reason why he may not do so, or if he will not submit to it, the operation may be done with cocain

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RECENT INVESTIGATIONS UPON THE POISONOUS PROPERTY IN EXPIRED AIR

BY HANNAH B CLARK, (UNIVERSITY OF CHICAGO)

"Expired air consists chiefly of watery vapor, carbonic dioxid (CO_2), and organic matter CO_2 in large quantities is a deadly poison, and popular opinion looks upon this as the dangerous element in foul air But specialists do not deem the CO_2 even in the worst ventilated rooms really dangerous

"What then constitutes the danger from foul air? It is the organic matter present in it The lungs and skin exhale a powerful poison The quantity is very small, but where two or three persons are together in a confined space, it is sufficient to infect the air quickly While the exact nature of this organic matter is a subject of dispute, it is evident that the human miasma is the really dangerous element in expired air

"The amount is generally proportional to the amount of expired air, and the CO_2 measures the amount of expired air Hence, the CO_2, although comparatively harmless itself, is a good index of the impurities of the air "[1]

In this extract from Dr Burnham's admirable monograph we have a clear statement of the position taken by physiologists in the second stage of the discussion regarding the toxicity of expired air, the view which appears in almost every work on hygiene published within the last five or six years During this time however, continued investigation has furnished us with a body of new evidence which is so weighty, and on one point so decisive that it involves an entire restatement of the case To this end a review of the course of discussion seems called for

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[1] Outlines of School Hygiene, W H Burnham, Ph D Pedagogical Seminary June 1892 pp 22 23

The "popular opinion" to which Dr Burnham refers, that looks upon CO as the dangerous element in expired air, is but the conservative survival of what, in the first phase of the investigation, was the generally accepted opinion In searching for the cause of those phenomena so common in crowded, ill-ventilated rooms—headache fainting, nausea etc, the earliest students of the problem naturally had their suspicions directed to the one conspicuous element in expired air whose poisonous properties when in large quantities were well known, and carbon dioxid seemed to bear this odium until experiments showed that but a small amount of the gas is present in even the most impure air Any evil effect from it seemed impossible and, as its presence did not explain the phenomena under consideration, some other poison must be sought

In 1870 Ransome published his studies of "The Organic Matter of the Human Breath," which was the first in a long series of investigations Ransome tested the breath for free and organic ammonia and estimated the organic matters given off in twenty four hours at 0 2 gm or gr He found in the breath, cells of various kinds, portions of epithelia, etc, and concluded that "they simply show the readiness with which the aqueous vapor of the breath ferments or putrifies, and the consequent danger of over crowding, and the paramount importance of ventilation"

More practical experiments were made by Hermans in 188, when he attempted to answer the question, whether there is in inhabited rooms an accumulation of combustible material which leads to evil results, and whether, if a gaseous organic matter is exhaled, it is harmful He reached the conclusion that sound men breathe out no appreciable amount of volatile organic matter By another series of experiments in which he placed a man in an air-tight chamber and examined the air from time to time he found that unpleasant symptoms appeared when the CO_2 rose to 3 per cent His attempts to discover some trace of organic matter in the fluid formed by condensed exhalations were fruitless

This negative result was an incentive to further studies of the same question, such as those of Uffelmann,[4] who determined the amount of CO in atmospheric air at from 3 to 4 parts per 10,000 Since Hermans' experiments placed the danger point for CO at 3 per cent, and other investigators had reported less than 100 parts per 10,000 in the worst ventilated rooms, the evidence seemed to be conclusive that CO_2 is not the dangerous element Uffelmann also states that it is not the infallible test of the toxicity of the air that it had been assumed to be, for he often found it low when the latter, i e, when the organic matter was high

Into the midst of these partially negative discussions with their lack of finality came certain statements from Brown-Séquard and d'Arsonval[5] which aroused the keenest interest because of their apparent decisiveness

These investigators had obtained a sort of solution of expired air both by pouring water into the bronchial tubes of an animal and withdrawing it after it had mixed with the air from the lungs, and by condensing breath With the liquid thus obtained they injected rabbits and dogs, the doses varying from 4 to 25 grs The resulting symptoms of illness differ only in intensity according to the increase in the dose They were invariably, dilation of the pupils, quickened respiration, paralytic weakness and variations of temperature, followed in extreme cases by death After death the venous blood was found to be red These results led the writers to conclude that, "the lungs of men, dogs and rabbits, in a healthy condition, produce an extremely energetic poison.

It is extremely probable, if not certain, that this is the toxic agent which renders confined air dangerous"

The poison, they said, is probably a volatile alkaloid "leucomaine," judging by its extreme alkalinity, its persistence after heating to boiling in a closed vessel, and the resemblance between the phenomena caused by injections of condensed breath and those caused by other alkaloids

There was an immediate attempt made to obtain results which would corroborate those of Brown-Séquard and his fellow worker Dastre and Laye[6] succeeded in producing the same symptoms in animals, but only when they injected very large quantities of the fluid, and they afterward found that a similar quantity of pure water produced the same effects

Entirely negative results were reached by Lehmann and Jensen,[7] and also by Hoffmann-Wellenhof[8] No trace of the alkaloid could be discovered

Brown-Séquard and d'Arsonval returned no direct answer, but a little later in the same year they reported a still more striking series of experiments in which they employed the so-called ventilation method A number of rabbits were confined in glass cages so connected that only the first animal received fresh air, each of the others being obliged to breathe the exhalations of those preceding it The death of the animals took place in regular order, beginning with the one farthest from the fresh air Moreover, they stated the amount of CO_2 present at any time was very small, not more than 1 or 2 per cent, and when a tube of sulphuric acid was placed between any two cages, the rabbit beyond it farthest from the source of air, lived

All of these facts they regarded as greatly strengthening the theory of a volatile organic poison, since the small amount of CO_2 could not cause death, and the security of the animal which received its air through H_2SO_4 pointed to a probable union of the alkaloid and the acid

This second challenge to investigators was taken up as quickly as the first had been The vexed question seemed on the point of solution Its confirmation was apparently given by Merkel[9] who in 1892 repeated Brown-Séquard's experiments Trying first the method of injection, he failed as the other would-be verifiers had done, but when he used the ventilation method his confirmation of the earlier results

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[2] Jour Anatomy and Physiol 1870
[3] Archiv f Hygiene Bd I, Heft 1
[4] Arch f Hygiene Bd VIII
[5] Comptes Rendus, January, 1888
[6] Comptes Rendus, 1888
[7] Arch f Hygiene, Bd X
[8] Weiner Klinische Wochenscrift, Dec, 1888, No 37
[9] Arch f Hygiene, Bd XV

appeared complete There were the deaths in the same order, with the same exception in the case of an animal protected by the H_2SO_4, and the same small amount of CO The remark that the symptoms of illness could not be distinguished from those of carbonic acid poisoning is apparently made by Merkel as an observer rather than as a logician He ignores it in his conclusions

Merkel next followed out the suggestion as to a basic substance, and attempted to unite it with various acids, sulphuric, hydrochloric and acetic After passing expired air through the acid he evaporated the solution and injected the sediment into rabbits Only the most transient symptoms of disturbance followed

The conclusion was therefore drawn that the organic poison exists,—as proved by the test of caged rabbits breathing expired air, that it is a base, as Brown-Séquard believed, and that it loses its toxicity when it enters into combination with an acid

For a time the position thus taken by Merkel and Brown Séquard and d'Arsonval was unassailed, and their view was even incorporated in the current works on hygiene as of final authority But the doubts had not all been laid, they were repeatedly revived by other observers who wished to see the proofs in their own laboratories, until the accumulated evidence entirely altered the aspect of the question

Benu, like Lehmann and Jessen, obtained only negative results from injection With the ventilation method there was a repetition of the phenomena Merkel had seen, but there were also several obvious causes which rendered unnecessary any reference to an obscure poison Excessive moisture, sudden changes of temperature, and lack of oxygen were the factors which explained all the effects Without ignoring the organic matter present, Benu considered it too small in amount to cause any trouble, and he found no proof of a specific poison

Thus far all the control experiments had been with animals, but Haldane and Smith[10] now made a valuable contribution to general knowledge in the record of investigations made with human subjects They constructed an air-tight chamber in which the subject remained from seven to twelve hours at four different times In the first two experiments the CO_2 increased from the normal to 5 8 per cent and 6 39 per cent In the second two the CO_2 was absorbed and reached only 0 6 and 1 4 per cent General discomfort, quickened respiration and a headache on coming out were the symptoms experienced by the subject in the first two, in the last two only the slightest discomfort In no case was an odor perceptible in the chamber at the close of the experiment, though it had been occupied for hours

In order to estimate the relative part played by excessive CO_2 and insufficient O, another series of tests was made which showed that the diminution of O had comparatively little effect, since hyperpnoea began when the CO_2 reached about 5 per cent whether the amount of O was greater or less than the normal

The conclusions which the authors draw are of interest

1 "The immediate dangers from breathing air highly vitiated by respiration arise entirely from the excess of carbonic acid and the deficiency of oxygen, and not from any specific poison

2 "The hyperpnoea is due to excess of CO and is not apparently affected by the corresponding deficiency of O The hyperpnoea begins to appear when the CO rises from 3 per cent to 4 per cent At about 10 per cent there is extreme distress

3 "Excess of CO is likewise the cause, or at least one cause of the frontal headache produced by highly vitiated air

4 "Hyperpnoea from defect of O begins to be appreciable when the O in the air breathed has fallen to a point which seems to differ in different individuals In the case of one of ourselves the hyperpnoea became appreciable at about 12 per cent and excessive at about 6 per cent"

In a later experiment[11] the same observers repeated the ventilation tests of Merkel, but only to conclude that "these experiments are distinctly against the theory that a volatile poison, other than carbonic acid, exists in expired air"

The amount of CO_2 was larger than that found by Merkel, and the presence of an absorption tube produced no effect, that is, there was no union of the acid with the hypothetical base

The latest testimony on the subject of a volatile poison is presented by Rauer,[1] who, at the suggestion of Professor Flugge, undertook to repeat the work of Brown-Séquard and d'Arsonval with the most careful exclusion of all possible sources of error Like Haldane and Smith, he found that the CO_2 in the cages was far in excess of that reported by Brown-Sequard, a fact which throws suspicion upon the latter's air-pump or tubing He also failed to agree with the latter as to the effects of H_2SO_4 The absorption tube was no protection to the animal whose air supply came through it Furthermore, the rapid recovery of the animals when the experiment was stopped was very different from the behavior of those poisoned by any known alkaloid On the other hand, all the symptoms were those of carbonic acid poisoning, and direct proof that death was caused only by the CO_2 is afforded by the fact that when an animal breathed through a tube containing KOH, which removed the CO, it continued perfectly well

Finally, the amount of organic matter present in expired air corresponds so closely to that in atmospheric air that it can not be looked upon as of any appreciable importance, even if a slight excess exists

In this work of Rauer, we have the last reported investigations of the question under discussion Taking these in connection with the conclusions reached by Benu and the many other observers who sought to verify Brown-Sequard's results, we may confidently affirm a final judgment on one point—the theory that there is a volatile organic poison in expired air is ruled out of court, it will not be questioned again in the face of such overwhelming denial But the problem still remains, What is the poisonous property in badly ventilated rooms which renders the air dangerous?

There is general agreement among investigators that until the amount of CO_2 rises to 3 per cent or 4 per cent no harm results But the worst ventilated rooms show less than 1 per cent, therefore it can not be responsible for those phenomena of crowded rooms which are commonly ascribed to bad air Whether long continued exposure to air containing an excess

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[10] Jour of Path and Bact October 1892

[11] Jour of Pathol and Bact., February, 1893

[1] Zeitschr f Hygiene u Inf Bd XI, Heft I

[illegible] CO above the normal, even if it be below the danger limit affects in any way physical well-being, is a question too elusive to be easily answered, if indeed it admits of an empirical answer

The investigations which have been recently made to elucidate the causes of the phenomena in question point toward the view that no single cause, but rather a combination of causes is to be expected, and that these may possibly be related to the physical condition of the air quite as much as to its chemical composition

In a crowded, ill ventilated room, several abnormal factors are to be noticed Aside from the excess of carbonic dioxide, there is an increase of moisture, a very considerable rise of temperature, and, very often, disagreeable odors, some of them due to bodily uncleanliness All of these must receive consideration in the further study of the practical problem, and be considered both alone and in combination

The difficulties in the way of these complicated experiments, increased as they must be by attention to the subjective element, the nervous strain felt by sensitive persons in a crowd, are so many that no complete solution of the question can be looked for in the immediate future We may, however, hope to learn something definite about the effects of temperature and cleanliness, factors which have a very direct bearing upon the efficiency of all systems of ventilation

Two recent series of investigations on subjects allied to the one discussed above contain some interesting suggestions In the *Centralblatt für Bakteriologie*, February, 1894, Alessi reports certain experiments which he has made on sewer gas as a predisposing cause of typhoid infection He found that the animals which breathed sewer air, a mixture of various gases were rendered peculiarly susceptible to infection, but that no one of the gases taken alone produced any effect, nor, most significant of all, did an artificial mixture of the more familiar gases of decomposition such as H_2S, CH_4, NH_3, etc He apparently failed in some way to reproduce all the elements of natural "sewer gas"

Geelmuyden, (*Arch f Hygiene*, Bd xxi, Hft ii) who studied the products of illuminating gas, asserts that the poisonous properties of air in crowded rooms are certain, but that chemically they can not be shown or determined

By a study of animals he reached the same conclusion that Haldane and Smith, Hermans and others had reached that CO is not dangerous until it amounts to 3 per cent or 4 per cent Illuminating gas increased the CO_2 in well-ventilated rooms 0 2 per cent to 0 3 per cent, in badly ventilated rooms 0 6 per cent to 0 7 per cent The gas increases the moisture slightly, the temperature very considerably And the latter part he regards as a very significant one in considering the injurious influence of the air

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SOCIETY PROCEEDINGS

Association of American Medical Colleges

Sixth Annual Meeting, held at the Club House of the Hotel Rennert, Baltimore

(*Continued from page 1014*)

It is my opinion that medical jurisprudence should be taught during the third or fourth years of the four years' course It should be a compulsory study, including at least thirty-two hours of time The instruction can best be afforded in lectures and recitations It should not include toxicology, except from a legal standpoint A few hours can, with profit, be spent in the laboratory in a study of blood in its medico legal aspects I would suggest that instruction include work in the following topics in the subjoined order

HISTORY OF MEDICAL JURISPRUDENCE

Legal procedure, the coroner's jury, the justice or municipal courts, the grand jury, the trial court, the court of review or supreme court

Evidence, witness of fact, witness of opinion or expert, *dying declarations*

Phenomena and signs of death, molecular death, somatic death, causes of death, signs of death, medico legal investigations in cases of death, the post-mortem etc

Presumption of death, presumption of survivorship, personal identity, the causes producing violent death, examination of blood stains, burns and scalds

Death in different forms of asphyxia, from suffocation, from strangulation, from hanging, *from drowning*

Death by lightning, death from heat and cold, death by starvation, death from poisoning, toxicology

Toxicology from a medico legal standpoint, malingering, pregnancy, criminal abortion

Infanticide, legitimacy, inheritance rape, insanity, medical malpractice, civil malpractice, life insurance

Dr N S DAVIS, Dean and Professor of the Practice of Medicine Chicago Medical College, presented the subject of

THE HISTORY OF MEDICINE AND MEDICAL ETHICS

The importance of a more systematic study of the history of medicine and its relations to all other coincident branches of human learning through the past centuries, is well illustrated by the following saying of Hippocrates "The physician must know what his predecessors have known, if he does not wish to deceive both himself and others"

Having delivered a course of lectures to the senior class in the Northwestern University Medical School, each of the last three years, on the history of medicine and medical ethics, I am more than ever before convinced that the subjects named are of so much importance that they should be placed in the curriculum of a medical school They should be taught with a reasonable degree of thoroughness Guided by my own experience, I am induced to think that a fair discussion of the origin, progress and more important events *pertaining to the history of medicine can not be given in less* than fifteen or sixteen lectures or lessons of one hour each

SYLLABUS OF WORK

Lecture 1 All the earliest historical and mythological data prior to, and at the time of Hippocrates, between the fourth and fifth centuries, B C

Lecture 2 The characteristics of Hippocrates and his works, and their relations to co existing systems of philosophy and religion

Lecture 3 The progress of medicine from the death of Hippocrates to the establishment of the Grecian or Alexandrian School and Library, to the overthrow 100 B C

Lecture 4 The effects of the Roman conquests, and the transference of medical institutions to Rome and their progress to the time of Galen about 200 A D

Lecture 5 Medical progress from the death of Galen to the overthrow of the Roman empire, the establishment of Arabian medical schools, to the return of medicine with the Saracens to Europe, covering a period of ten or twelve centuries

Lecture 6 The reëstablishment of medical schools at Salerno, Bologna, and other points in Europe, from the thirteenth century to the end of the fifteenth century, during which chemistry and anatomy became distinct branches of science, and the arts of printing is discovered

Lecture 7 Progress of medicine during the sixteenth and seventeenth centuries, with the influence upon it of the thirty years of religious wars

Lecture 8 Progress during the eighteenth century—the era of medical theories and dogmas, as well as of scientific discussions

Lecture 9 The important discoveries and progress during the first half of the nineteenth century

Lecture 10 The condition and progress of medicine and medical institutions in the American colonies from their settlement to the close of the War of Independence

Lecture 11 The progress of medicine and of medical institutions in the United States

Lecture 12 Progress in the development of minute anatomy, pathology etiology and experimental therapeutics, closing the second half of the nineteenth century, and its relation to coincident progress in the other departments of science

Lecture 13 The important discoveries and their application in all practical departments of medicine, during second half of the nineteenth century

Lecture 14 The present status of the science and art of medicine and surgery, the effect of its segregation into specialties, and the principles that should guide our efforts for future progress

Lecture 15 A candid statement of the origin and distinctive characteristic features and claims of homeopathy Thompsonianism eclecticism, physio medicalism, etc, which still remain as an eighteenth century excrescence or dogmas in the domain of medicine

In presenting a fair discussion of medical ethics, I have found it necessary to give four lectures, to wit

Lecture 1 The origin of medical ethics including the Hippocratean oath, the volumes by Thomas Percival in 1803, and the framing of the American Code by the National Medical Convention in 1846 and 1847

Lecture 2 The adoption of the American Code by the American Medical Association and nearly all the State medical societies The duties of the physician to his patient and of the patient to the physician

Lecture 3 The Code as applied to the relations existing between physicians and to the profession at large

Lecture 4 The Code, defining the duties of the physician to the public and of the public to the profession, with the explanatory preamble and resolutions appended thereto, with such comments may be deemed proper

The most appropriate place in the medical course of study is the fourth year, and certainly not earlier than the third year, as the more advanced the student is in the current medicine of the day, the better he will appreciate all that relates to its past history, and the more certainly it will guard him against entertaining extravagant ideas of the importance and permanence of the popular doctrines and practices in which he is being educated

We would recommend as the minimum amount of work for four years, courses to consist of eight months each as follows

For the third year men, thirty recitations, twenty didactic lectures, ten practical lessons in physical diagnosis, and three review examinations

For the Seniors (that is for the fourth year men) we recommend thirty recitations, twenty didactic lectures, ten lessons in practical physical diagnosis, thirty clinical lectures, and three review examinations Although we have recommended this as a minimum, we think it would be a fair average There would be no objection to adding a few more hours if other subjects permitted

The work of the Juniors should comprise recitations on physical diagnosis, and on all of the common diseases of the heart and lungs, and didactic lectures on the more important diseases of the thorax

The work of the Seniors should comprise recitations on practically all of the diseases of the thorax, except those of very rare occurrence, with didactic lectures on all of the principal diseases, and clinical lectures on such cases as might be presented Practical physical diagnosis would necessarily have to be much the same for the two classes, but the Juniors should study thoroughly the normal chest By this arrangement all subjects are gone over twice in one way or another, and we believe it necessary that they should be so considered, in order to fit the men for work as general physicians We have not specified the particular diseases thinking it would require more space than you would care to devote to this branch, but we will do so if it is your desire Respectfully submitted

E Fletcher Ingals,
Chairman Rush Medical College

Dr Henry P Bowditch, Professor of Physiology at Harvard Medical College, said, on the subject of

PHYSIOLOGY

I feel much hesitation in undertaking the work you have asked me to perform, since no one person can have an adequate idea of the conditions under which medical instruction is taught in various medical schools of the country An ideal course of instruction should be arranged so as to bring the instruction in physiology subsequent to that of anatomy, but this is rarely, if ever, possible, owing to the small number of subjects which can be properly taught the first year

With regard to this, the fifth point in your circular letter, I would say that, in my opinion, it would be unwise to make any general rule to regulate the practice of medical schools with regard to giving credit for work done in other schools It seems that Each school should judge of this for itself the object of this committee will be secured if the aid of various national societies of specialists is invoked The preparation of a syllabus of lectures in physiology, for instance, could be intrusted to a committee of the American Physiological Society, and if indorsed by the society would command the confidence of the various medical faculties of the country A result would be reached more slowly by this way but it would, I think, be worth waiting for

Dr Roswell Park, of New York, discussed the subject of

BACTERIOLOGY

Basing the following plan upon a four years' course of not less than eight months each, my suggestion would be as follows I think that bacteriology ought to be taught in a way differing from that in which it is at present generally taught, and I would divide the subject in accordance with these views During the first year, when the men are doing their preliminary work on the fundamental studies—at the time, in other words, when they are studying anatomy, physiology and biology, which I assume they are also to be taught—I would have systematic instruction in cryptogamic botany, devoted in a large measure to morphology and the classification of the various forms of vegetable life, with which they will later have to become more familiar as disease germs This instruction at such time would be essentially didactic, with illustration by diagrams and, if possible, by a certain amount of acquaintance with the appearance of these minute forms of life through the microscope This didactic instruction should be partly by the way of lectures, partly by way of recitation, and might profitably consume eight or ten hours of actual work Incidentally I would put in also instruction upon the lowest forms of animal life—the sporozoa, etc This might possibly be done before they take up the other forms of animal life which are parasitic, that is, the entozoa

During the second year, or at such time as the men are taught organic chemistry, and along with the study of the alkaloids, or in appropriate places, I would have instruction inserted, concerning the ptomaines and other poisonous alkaloids which are the products of bacterial life, and, again, when they are dealing with the albuminoids, I would insert so much as can be taught with any definiteness about the albuminoid poisons of the same origin This would require a careful arrangement of these and their insertion at proper points, with a reference backward to morphologic studies and a strong impetus forward in the direction of a practical application of what they have learned during these two years, which should come in during the fourth year in the way of laboratory investigation

I am taking it for granted that teachers in the various departments who have to deal with infectious diseases would make, now and again, the statement that such and such a disease is due to such and such an organism, and would give such demonstration of this as they might see fit This would be both an illustration of the importance of remembering the isolated facts already gathered, and would serve to keep the student alive to the importance of such knowledge

It would be difficult to assign a definite number of hours to this work in organic chemistry *in toto* I should say that at least three or four hours ought to be devoted to this particular part of the work during the season's instruction in chemistry, perhaps more

Finally, during the fourth year, I would have courses of practical instruction in a bacteriologic laboratory, arranged to last at least six weeks, preferably eight, during which at least three hours of continuous work should be devoted to this each day, this to be like laboratory instruction in other respects The men should be taught to make the culture media, and to go through all the various manipulations which are included in the study of bacteriology They should be taught to differentiate between different forms, and to recognize pathogenic organisms, and at least a certain amount of work upon living animals should also be insisted upon They should also be taught the use of the microscope in the recognition of bacteria and their differentiation, as well as their detection in various morbid products—sputum, urine, etc

It seems to me that in this way, men would go out from college not experts, but intelligent scholars, having already in their possession the knowledge which would incite them to further study, or at least make them intelligent readers and students

First year Instruction in cryptogamic botany and morphology

Second year Instruction in the chemistry of the bacterial products

Fourth year Laboratory exercises and instruction in the cultivation and detection of the bacteria, and methods of experimental study

Dr Howard Kelly, Johns Hopkins Hospital, said on the subject of

GYNECOLOGY.

([illegible] hours)

Gynecology is a specialty and not one of the fundamental branches. If it is to be mastered this must be done by post graduate study. The time recommended is sufficient to give a general practical knowledge but not to fit a man to perform major important operations. This time should be divided as follows: Didactic lectures thirty hours, clinical lectures thirty hours, touch course, fifteen hours, laboratory demonstrations from recent specimens, [illegible] hours, recitations, ten hours. One hundred hours in all.

The lectures should be arranged as follows: Topographical anatomy, two; gynecologic examination, two; diseases of external genitals and operations, eight; diseases of urinary tract, four; diseases of uterus, tubes and ovaries [illegible] gynecologic operations after treatment of abdominal cases, fourteen. Total, thirty.

[illegible] should be given the last year with other [illegible] subjects.

1 No special preliminary studies are necessary except [illegible] included in a well arranged course [illegible] teaching in anatomy and pathology.

2 [illegible] examination the only proper method of [illegible] advanced standing. If the standard is high this is but fair to the other students.

3 Topographical anatomy, two lectures. General principles of gynecologic operations two lectures.

Touch course of fifteen hours. Examination of normal pelvic organs: vulva, vagina, uterus, tubes, ovaries, broad ligaments, urethra, bladder, ureters, anus, rectum, sigmoid flexure. Two lectures, fifteen hours practice.

Malformations, gynecology and diseases of vulva, vagina and cervix: inflammatory, neoplasms, cysts, lacerations, fistula. Eight lectures.

Diseases of urethra, bladder and ureters: inflammatory, strictures, fistula, calculi, neoplasms, cysts. Four lectures, four hours clinical instruction.

Diseases of uterus, tubes, ovaries and broad ligaments: Inflammatory, neoplasms, cysts. Ten lectures.

After-treatment of abdominal cases. Two lectures.

Note —Clinical instruction will have to be given to the class as the material is available.

1 For satisfactory gynecologic teaching, the class should be divided into small sections of five and ten.

2 Not more than five should be admitted to a touch course at one time.

3 In didactic teaching, the whole class should be united.

4 It is important, as far as practicable, to establish the plan of teaching several minor gynecologic operations upon the cadaver.

Order of instruction: one didactic lecture weekly, thirty hours. Demonstrations from recent specimens in pathologic laboratory, one hour every second week, fifteen hours. (Touch course to class by sections throughout term, fifteen hours each.) Recitations, one hour every third week, ten hours. Clinical instruction, one hour weekly, thirty hours. Total, eighty-five hours. Adding touch course, fifteen hours, total, one hundred hours.

Professor Victor C Vaughan, of the University of Michigan, presented a

SYLLABUS OF LECTURES ON HYGIENE—NOT INCLUDING BACTERIOLOGY

(Seventy eight hours.)

Part I—Individual Hygiene

Lecture 1—Food, definition, classification. Cyclical changes in matter, actual and potential energy. Foods for plants. How plants obtain their carbon, hydrogen, oxygen, nitrogen, phosphorus and sulphur.

Lecture 2—Force value of foods.

Lecture 2—Food principles, water, inorganic salts, proteids, carbohydrates and fats. The amount of each food principle required by healthy persons daily.

Lecture 4—The economic value of foods. The percentage composition of the most important foods.

Lecture 5—The construction of diet tables for the healthy. Rations for prisoners, for workingmen, for students.

Lecture 6—Meats. General statements concerning the use of meats as foods. Is man suited to an exclusive vegetable diet? This question is answered from the anatomic, physiologic, chemic and experimental data known.

Lecture 7—Meats (continued). General rules which should govern the selection of meats. Digestibility and food value of meats from different animals. Influence of season, of previous feeding, of age, of exercise just before death, and of methods of slaughtering and dressing on the food values of meats.

Lecture 8—Meats (continued). The transmission of animal parasites to man in meats. Trichinæ, echinococci, tænia.

Lecture 9—Meats (continued). The transmission of bacterial diseases to man through the flesh of diseased animals. Anthrax, tuberculosis, foot-and-mouth disease, etc.

Lecture 10—The inspection of animals before slaughtering. The hygiene of slaughtering houses.

Lecture 11—Meats infected with non specific toxicogenic germs. Historical review of cases of mass poisoning of this kind.

Lecture 12—The examination of meats suspected of producing untoward effects. Chemic and bacteriologic examination.

Lecture 13—Milk. Its physical and chemic properties. Adulterations. Detection of adulterations.

Lecture 14—Milk (continued). Comparison of woman's and cow's milk. Changes in cow's milk to make it correspond more closely with that of woman. Infants' foods.

Lecture 15—Milk (continued). A vehicle for the spread of tuberculosis, typhoid fever and other diseases.

Lecture 16—The relation of infected milk to the summer diarrheas of infancy. The formation of poisonous ptomaines and proteids in milk.

Lecture 17—Rules to govern the dairy farm, milking, the cooling and transportation of milk.

Lecture 18—Sterilization and Pasteurization of milk.

Lecture 19—Butter. Its food value. Methods of preparation. Influence of bacteria in the production of butter. Adulterations and methods of detecting the same.

Lecture 20—Cheese. Methods of preparation. Action of rennet. Action of bacteria. Hygiene of the factory and curing room. Adulterations and methods of detecting the same.

Lecture 21—Varieties of cheese. Food value. Cheese poisons.

Lecture 22—The starches and starchy foods. Their value. Their digestibility. Effects of excess of starchy foods. Digestion of cellulose. Fermentation in the intestines.

Lecture 23—Sugars and syrups. Kinds of sugar. Distinctions. Commercial methods of preparation. Confectionery. Adulterations of sugars, syrups and confectionery.

Lecture 24—The cereals. Their food value. Varieties. Wheat, rye, barley, corn, etc. Methods of conversion into foods. Ergotism. Maidismus, lathyrismus, tayopyrismus.

Lecture 25—Flours and meals. Tests of the bread making value of flours. Food value. Estimation of gluten contents. Food values of flours and meals.

Lecture 26—Bread. Methods of making. The leavening of bread, with yeast, with baking powder, with compressed air and other gases. Adulterations of bread. Impure yeast. Adulterated baking powders. The use of coloring matters in cakes. Short weight loaves.

Lecture 27—Fresh fruits and vegetables. Their food value. Scurvy, its history in the past, its occurrence at present and its prevention.

Lecture 28—Dried and preserved fruits. Their preparation. Adulterations. Poisoning from canned vegetables and fruits. Jellies and their adulterations.

Lecture 29—Condiments. The extent to which salt should be used in food. The use of pepper, mustard and spices. Their adulterations.

Lecture 30—Non-alcoholic beverages. Coffee, tea, maté, cocoa, chocolate, etc. Their food value. Their stimulating effects. Active principles. Physiologic and toxicologic effects. Adulterations.

Lecture 31—Alcoholic beverages. Fermented and distilled, cider, wine, beer, porter, brandy, whisky, rum, gin, liquers, etc. Percentage of alcohol. Other constituents. Food values. Adulterations.

Lecture 32—Alcoholic beverages (continued). The physiologic and pathologic effects of alcohol. Its effects on digestion, the circulation, nervous system, etc. Its use in health and disease.

Lecture 33 —Baths and bathing The necessity of frequent bathing Excretion through the skin The temperature of baths The morning bath The shower bath and cold plunge The warm bath Mineral baths Sun bathing Swimming as a means of exercise The resuscitation of the apparently drowned

Lecture 34 —Clothing Fibers used in the manufacture of clothing Silk, wool cotton, flax hemp and jute The properties of each Their durability and adaptability Influence of season on clothing, color The use of fur leather and rubber as articles of clothing

Lecture 35 —The adjustment of clothing Advice to patients in regard to their clothing in various diseases, such as Bright's disease and tuberculosis

Lecture 36 —Physical exercise Its value Pulmonary and systemic respiration Oxygen in the blood is physiologically still outside of the body It must be carried into the tissues and this can be done only by activity of the tissue Kinds of exercise Conditions necessary to make it of value

Lecture 37 —Mental hygiene Activity necessary to brain development Mental work does not kill, worry may Train the judgment Take some line of work and make yourself master of every detail Study must be begun early in life One who takes up a new line of work after 40 is likely to make a failure of it Methods of study Hours of study

Lecture 38 —Rest Recreation Physical rest Mental rest Change in work Evidences of need of rest Rest in sleep, in recreation and in work

Part II—The Hygiene of the Family

Lecture 39 —Healthful homes The selection of a site The nature of the soil and the surroundings The construction of the cellar, the walls, the decorations of the walls, floors, carpets and rugs, doors, windows, etc

Lecture 40 —The arrangement of the rooms The living, sleeping and dining rooms The pantry and kitchen Closets bath room, etc

Lecture 41 —The heating and ventilation of residences Heating with open fire, stove, hot air, steam and hot water The inlets for fresh air and outlets for the foul Patent systems of ventilating houses Simple methods

Lecture 42 —The disposal of excreta and garbage in villages and country places Privy vaults, dry earth closets, cesspools The disposal of kitchen waste Private water supplies

Part III—School Hygiene

Lecture 43 —Location of the building Hill and stair climbing good exercise The size of rooms Air space per student Cloak rooms Study and recitation rooms Lighting, heating, ventilating, blackboards, etc

Lecture 44 —School age The kindergarten and its methods The study of language and mathematics Hours of study in school and at home Methods of study and of teaching The influence of school life on growth and health

Lecture 45 —The diseases of school life Myopia and various forms of nervous disturbance The duties of teacher, parent and health officer when epidemics appear in schools Disinfection of school rooms

Part IV—Industrial Hygiene

Lecture 46 —Diseases due to the inhalation of dust Bronchial catarrh Pulmonary emphysema Bronchiectasia Deposition in the lungs of coal dust of finely pulverized metals of sand, tobacco dust, etc Influence of an atmosphere filled with dust on the digestive organs Statistics

Lecture 47 —Diseases most frequently observed among those who work in cotton, wool, silk, hair and feather manufactories Among those working in glass factories, in ultramarine, etc General rules for the protection of working men against dust inhalation

Lecture 48 —Diseases common among those who work with poisons Diseases of the respiratory organs Diseases of the abdominal viscera Phosphorus, arsenic, lead, zinc, mercury and antimony poisoning

Lecture 49 —Working with organic poisons Cyanogen compounds Anilin and its derivatives Carbolic acid Poisonous plants Animal poisons General rules for the protection of these working men

Lecture 50 —Special diseases of the skin as influenced by occupation, of the circulatory organs, of the muscles, bones, joints, of the nervous system, of the organs of special sense

Lecture 51 —Injuries common in certain occupations Mechanical and chemical injuries First help to the injured General rules for the special protection of parts of the body exposed to danger

Part V —Municipal Hygiene

Lecture 52 —Water supply Sources Cistern, surface and subterranean waters The pollution of streams and lakes The self purification of rivers The artificial purification of water, by subsidence, by precipitation by filtration

Lecture 53 —Waterborne diseases Typhoid fever, cholera, dysentery

Lecture 54 —The chemic examination of drinking water The determination of sodium chlorid, free and albuminoid ammonia, nitrates and nitrites The value of chemic analyses

Lecture 55 —The microscopic and bacteriologic examination of drinking water Objects found by microscopic examination Methods of bacteriologic study Counting the number of germs Determining the toxicogenic properties of the germs

Lecture 56 —Sewers The single and double systems The house connections Traps, ventilating pipes, etc

Lecture 57 —The disposal of sewage Discharge into bodies of water Sewer farms The purification of sewage

Lecture 58 —The disposal of garbage Dumping into water Burying Burning The utilization of garbage

Lecture 59 —Streets, pavements, parks, public baths The sanitation of tenements, lodging houses places of amusement, etc The sanitary inspection of buildings

Lecture 60 —Sanitary supervision of the markets Meat and milk inspection The detection of gross adulterations

Lecture 61 —The duties of the municipal health authorities The notification of infectious diseases Isolation Disinfection Sanitary police regulations

Part VI—State Hygiene

Lecture 62 —State sanitary service State Boards of Health Plans of organization Duties Relations to local and city boards Comity between State and provincial boards Inter State notification of diseases dangerous to the public health

Lecture 63 —The State Board of Health as an executive body, as an advisory board, and as a promoter of scientific investigations

Lecture 64 —A State sanitary inspector, his duties and responsibilities His relation to the Board of Health A State analyst The duties of such an officer

Lecture 65 —The sanitary laws of different States The means provided for their enforcement, etc

Part VII—National Hygiene

Lecture 66 —The National Health Service Has our country any such service? What should be done in this direction by our government? History of national sanitary legislation in this country? In other countries?

Lecture 67 —What means are now used to protect against the importation of disease from other countries? Quarantine, disinfection, inspection What should be done? Should the national government undertake scientific sanitary investigations?

Part VIII—The Influence of Climate on Health

Lecture 68 —What is meant by climate? Comparison of climatic and local conditions? The geographical distribution of tuberculosis and the lessons to be learned therefrom?

Lecture 69 —The geographical distribution of diphtheria, scarlet fever and measles

Lecture 70 —The geographical distribution of influenza, yellow fever, dengue and malaria,

Lecture 71 —The geographical distribution of typhoid, typhus, plague, etc Lessons to be learned from these facts

Part IX—The Hygiene of the Sick Room

Lecture 72 —The prevention of the spread of the infectious diseases in private practice The selection of the sick room Its furniture The nurse Isolation of the sick What must the physician do to prevent his carrying the disease to others?

Lecture 73 —Hospitals Their location, construction, heating, ventilation, management, etc

Lecture 74 —Contagious disease hospitals Hospitals and sanitaria for special diseases, as smallpox, diphtheria, tuberculosis, etc

Part X—Immunity

Lecture 75 —Natural and acquired immunity How is immunity secured? Vaccination, history and statistics

Lecture 76 —Vaccination against anthrax, chicken cholera, swine plague, etc Immunity secured by the chemic products of germs

Part XI—Miscellaneous

Lecture 77 —Military hygiene The soldier His clothing and food The camp Barracks Hospitals, etc

Lecture 74 — Marine hygiene. The ship: its construction and ventilation. The food and clothing of sailors. The diseases and accidents to which they are specially liable.

Lecture 75 — The disposal of the dead.

Dr. H. Gradle, of Chicago, presented a paper on

OTOLOGY

After a comparison of the courses in otology in American and European medical schools the undersigned would recommend as the minimum requirement the daily attendance at the clinics of a well organized ear clinic or dispensary, where the students can closely examine the patients for a period of at least four weeks, or what amounts to the same thing, a distribution of the twenty-four clinical hours throughout a whole semester, and either in connection with the clinic or separately, a course of at least eight systematic lectures on the diseases of the ear. The only conclusive evidence that a student has not merely attended this course but profited by it is his ability to examine clinically and diagnose correctly when put in front of new patients.

The course should not be taught before the third year, and it would seem more logical to have it follow the training in general and [illegible] surgery. It would be well to have this course follow a course in rhinology.

If the various colleges belonging to the Association agree on a standard of minimum requirements in any one branch, then there is no good reason why a student who presents evidence that he has passed in this branch in an equivalent medical school should not get credit for his work. But if he comes from an institution which has not adopted the same standard, justice would require a re-examination. In otology, as well as in any other branch of clinical medicine, a practical test of the student's ability to form a diagnosis and prognosis when placed before a series of patients, is a much more correct method of gauging his knowledge than a theoretical examination.

Dr. Edward L. Holmes presented the report of the subcommittee on

OPHTHALMOLOGY

This committee presents a syllabus of minimum instruction in ophthalmology, which it believes every medical college should provide for its students. It does not suggest, much less advocate, a course for the education of students in colleges as specialists, simply that they should study with care fundamental principles, that those, especially, who begin practice in small towns and villages, may skillfully examine and treat the ordinary diseases and injuries of the eye in patients who are utterly dependent upon them for aid, that they may, without dangerous delay, advise intelligently, patients when to seek the skill of the specialist, that they may comprehend the structure and use of common optical instruments and appliances and, finally, that they may be able to pursue advantageously after graduation this special study if they choose.

I

During the last four months of the second year, one lesson a week should be devoted to demonstrations of the following subjects, in classes of not more than thirty students, under the direction of instructors in properly equipped laboratories.

1 The anatomy of all the tissues by means of human eyes and the eyes of animals, at least one eye being provided for each five students, and by means of microscopic preparations.

2 The physiology of each structure.

3 In the laboratory of medical physics, a study with appropriate apparatus of the primary principles of optics.

4 Reflection of light from plain, convex, concave surfaces, with a sufficient number of small mirrors for each student to perform all necessary experiments.

5 Refraction of light by media with parallel, plain, curved surfaces, by prisms and by convex and concave lenses, each five students being furnished with lenses and a small camera filled with smoke, that he may make his own demonstrations.

Every student should be strictly required to study approved books in connection with the laboratory exercises, and be subjected to thorough examinations.

II

For the fourth year.

1 One clinic a week through the year.

2 Sixteen didactic lectures, chiefly on the following topics: The cornea, the conjunctiva, the uveal tract, the optic nerve and retina, the lens, the lacrymal apparatus, the muscles, the lids, the orbit, with special emphasis upon purulent conjunctivitis, glaucoma, iritis, sympathetic ophthalmitis and myopia.

3 Review of the laboratory work of the second year in the reflection and refraction of light.

4 Fifteen hours devoted to practice in the use of the ophthalmoscope, with suitable artificial eyes, emmetropic, hypermetropic and myopic, with the eyes of patients and of the students themselves.

5 Examination by focal illumination.

6 Fitting glasses, tests for color perception and tests for malingering.

7 Study of gross pathologic specimens.

8 Although the class may have passed the general examinations in materia medica and therapeutics, students should be required to study in review, at least, the following list of remedies and to write upon the blackboard at the clinics and other exercises, prescriptions in proper form for diseases of the eye.

Four mydriatics coca, boron, silver, copper. Two myotics mercury, zinc.

In the opinion of this committee, no student in college should be exempt from the above courses, even if he shall have taken them previously in another college.

It will be observed that, in accordance with this syllabus, the number of purely didactic lectures is reduced to a minimum and that the teaching is in a great measure by "manual training." With this kind of individual training, and with ample clinical observation, the study of a suitable book and regular recitations from it become a most important mode of instruction. By recitations, the student gains knowledge and retains it. Unfortunately, no book has been written which is fully adapted to the requirements of this syllabus.

It is assured in this report that the college curriculum extends through four years, with a term of study each year of eight months.

Kentucky State Medical Society

Abstract of the Proceedings of the Fortieth Annual Meeting, held at Harrodsburg, June 12, 13 and 14, 1895.

(*Continued from page 1016.*)

Dr. Frank C. Wilson, of Louisville, read a paper entitled

THE DANGERS OF CHLOROFORM ANESTHESIA, HOW TO AVOID AND OVERCOME THEM

The frequent occurrence of death during the administration of anesthetics forcibly impressed upon us the dangers incurred and the importance of a careful review of the subject. Dangers may arise 1, from impurity in the anesthetic used, 2, from administering it to improper subjects, or to those not properly prepared, 3, from administering it in an improper manner, 4, if accidents occur, the danger will be vastly increased by a failure to detect the earliest indications and to properly institute measures of resuscitation, 5, danger is increased in proportion to the prolongation of anesthesia. As by far the greater number of deaths occur from the administration of chloroform, the author directed most of his attention to a consideration of the dangers incident to its use. Every patient should be carefully examined. The condition of the heart and lungs known, and that of the kidneys ascertained by a test of the urine. Simple uncomplicated disease of the heart does not necessarily preclude the use of chloroform, but ether is safer unless there be present bronchial inflammation, or disease of the kidneys. If there be found affections of the brain, chloroform is best. In the use of chloroform with the cone and with many of the inhalers it is impossible to estimate the amount of chloroform the patient actually inhales. It is not the amount of chloroform which has been poured upon the cone, but the quantity which has passed into the circulation which is the vital question. In order to obviate this difficulty the author has adopted a plan of vaporizing the anesthetic from an atomizer, the bottle being so graduated as to indicate, at a glance, exactly how much is being used. As chloroform is drawn into the inhaler or cone none is wasted, but all passes directly to the lungs and there can be no uncertainty as to the amount used. The author then dwelt upon the means of resuscitation when needed.

Dr. J. H. Baughman, of Flat Lick, read a paper entitled "A Few Crumbs about Typhoid Fever."

Adjourned until 8 p.m.

Second Day—Evening Session

The Society reassembled at 8 p.m. at the Harrodsburg Opera House, and was called to order by Dr. J. N. Baughman, Second Vice-President.

Dr A W Hitt, of Louisville, gave a lecture on "Leprosy" which was illustrated by means of the stereopticon He stated that we were indebted to the Bible for the earliest reports of this disease The popular belief that leprosy is a disease limited to the lower classes is not true The author cited cases of kings and other members of the nobility who were afflicted with and died of the disease There are 19,000 leper islands in all England, in France 2,000 These leper islands represented millions of cases of the disease There were 522 cases of leprosy in the United States One tenth of the population of the Sandwich Islands had leprosy The author then considered the anesthetic and tubercular forms of the disease

Dr Lyman Beecher Todd, of Lexington, was introduced, and delivered an eloquent, yet touching and impressive address entitled "A Generation of Kentucky Physicians—A Reminiscence" He graphically portrayed the great work that had been done by Gross McDowell and others and paid eloquent tributes to them He said the Kentuckians cherished their names and highly appreciated their contributions to medicine and surgery—contributions that were preserved in libraries and considered a precious inheritance They were the shining stars of the medical firmament and had practiced medicine and surgery so skillfully and successfully in small towns and hamlets that it made the past generation of Kentucky physicians worthy of remembrance and emulation

Dr Dudley S Reynolds, of Louisville, followed Dr Todd with an address entitled "The Ethics of the Medical Profession" This address was listened to with marked attention throughout its delivery Among the various points brought out was this that ethics must belong to the educated classes It aims to establish the right conduct with respect to doctors themselves, and of their patients He then alluded to the organization of the American Medical Association and its Code of Ethics, saying that the Kentucky State Medical Society was organized in 1851, at which time it adopted its code The Kentucky State Medical Society admitted as members those physicians who were identified with local medical societies

Adjourned till Friday, 9 a m

At the close of this session, the members, with their wives, daughters and friends repaired to the residence of Dr A D Price, where a reception was held and a sumptuous repast served

Third Day—Morning Session

The first thing in order was the report of the Nominating Committee, which was read as follows

To the President and Members of the Kentucky State Medical Society —Your Nominating Committee beg leave to submit the following report

For President, Dr John A Lewis Georgetown
First Vice President, Dr H H Grant, Louisville
Second Vice-President, Dr O S Kash, Moorefield
Permanent Secretary, Dr Steele Bailey, Stanford
Treasurer, Dr J B Kinnaird, Lancaster
Librarian, Dr Frank Boyd, Paducah
Place of meeting, Lebanon, 1896
Chairman of Committee of Arrangements, Dr R C McChord, Lebanon

On motion, the report was adopted

Dr. A D Price read a paper entitled

ANTEPARTUM AND POSTPARTUM HEMORRHAGE

The author portrayed the importance of the hemorrhage that antedates the completion of labor, and there remain to be considered those of no less import that follow There is no other class of patients in which emergencies occur so suddenly, and which demand such prompt measures of relief as those that come under the obstetrician's care The obstetrician should have fixed principles of conduct for every accident liable to be encountered and, banishing every doubt or hesitation, boldly employ them for the saving of life Postpartum hemorrhage follows the birth of the child, and the loss of blood is from the placental site, or from torn or lacerated vessels in vagina or cervix, or from the ruptured uterus

The third stage of labor requires the most careful management Delivery of the placenta, as a rule, means great danger Too early efforts in this direction exhaust the uterine muscles and favor relaxation Those who had witnessed a severe postpartum hemorrhage could appreciate its seriousness Prophylaxis can accomplish much and render these cases exceedingly rare The patient should be carefully prepared for her confinement, the surroundings being made aseptic, and

oughly emptied A faradic battery, one pole being applied to the lumbar region, and the other over the uterus or within its cavity, rarely fails to produce prompt and efficient contractions, and should always have a place in the obstetrician's armamentarium

The patient's general condition will require attention If the loss of blood has been great and the shock is severe, lower the head elevate the limbs, apply heat to the back of the neck and head, and give rectal injections of whisky and hot coffee If the depression is very great, hypodermics of whisky in strychnia will be demanded

Dr John G Cecil, of Louisville, followed with a paper entitled

CRANIOTOMY, SYMPHYSIOTOMY AND CÆSAREAN SECTION

Each of these operations has a place in obstetric surgery, and we may safely say that they are here to stay The author believes that pelvimetry is a subject as yet little understood and still less practiced in this part of the country It is the key to the situation in many cases demanding interference, *for upon our estimation of* the pelvic diameters depends the selection of the operation best indicated for relief Craniotomy will always have its advocates, but that it must decrease while the other two must increase, is already a matter of history Under aseptic precautions and in the hands of those familiar with the more formidable operations, it is probably the safest, that is, less destructive to maternal life, but in the light of modern surgical achievement it is not indicated upon the living child It is indicated upon monstrosities, hydrocephalics and upon dead children, but not in any case of such extreme narrowing of the pelvic canal as would render the destruction of the child very certain, and delivery of the fragments destructive to the soft parts Symphysiotomy is now generally admitted to be a perfectly justifiable operation The limits are being more strictly defined as its scope is better understood It will probably displace Cæsarean section in cases where there is only a relative indication A proper case for it is one of occipito-posterior position which, either on account of a large fetal head or a small pelvic canal, can not be delivered by version or the forceps without such violence as would endanger the maternal structures and put the life of the child in great jeopardy Multipara are better subjects than primipara

Further indications for Cæsarean section are extreme cases of cervical or vaginal atresia and rupture of the womb with escape of the contents into the abdominal cavity Considering the frightful fetal mortality, and the great risk to the *life of the* mother, Dr Cecil is about prepared to say that placenta previa centralis constitutes a legitimate indication for Cæsarean section

Dr David Barrow, of Lexington, read a paper entitled

EXTRAUTERINE PREGNANCY—FOUR RECENT CASES

The first patient was 34 years of age, married twelve years, mother of two children, one 12 and the other 9 years old

Case 2 was a woman 28 years of age, married thirteen years one miscarriage five years ago, no pregnancy since In this case ruptured tubal pregnancy was diagnosed, and operation advised and performed

Case 3, woman aged 30, married eleven years, two children living, one dead

Case 4, woman aged 28, married five years, no children, had a miscarriage five months after marriage, and once since She thinks she aborted at the second month

These cases came under *his* care during the past five months In all save one, the diagnosis was comparatively easy, and in every case the patient consented readily to the treatment proposed To the prompt resort to surgery he attributes largely the successful results obtained Extrauterine pregnancy is *more* frequent than is usually believed by the profession Most physicians in active practice have met with these cases, and have *often failed* to recognize them, cause of death being attributed to idiopathic peritonitis or some other condition Dr Barrow believes and contends that more of these cases should be recognized before rupture, and if they were *not* put aside carelessly with the general opinion that they were cases of threatened abortion more accurate diagnoses would be made

The treatment of *extrauterine* pregnancy is surgical Electricity, injections into the sac, etc, are advocated by some, and cases are cured by these means, but he believes prompt resort to surgical interference is the only treatment worthy of consideration *when* the patient's consent can be obtained, and the physician is prepared to do such surgery These patients do well [illegible] separate the adhesions, deliver and tie off the impreg[illegible] tube and its ovary as quickly as possible

Dr J W [illegible], of Elizabethtown, read a paper entitled

[illegible]

[illegible] The patient, a widow 52 years of age, a native of Kentucky, the mother of two children [illegible] to consult him in regard to a skin disease [illegible] She gave a history of dyspepsia and constipation [illegible] disease began about two years ago soon after [illegible] her husband. She first noticed a few small [illegible] which gradually spread over the nose [illegible] with a few on the forehead. Previous to [illegible] a flushing of the face or hot [illegible] of the face was always greasy. Her face [illegible] bright red indurated pustules varying in [illegible] compared to that of a small bean, many [illegible] nearly all containing some pus [illegible] generally was very much thickened and [illegible] would move the entire cheek. The [illegible] congested and tortuous. He [illegible] by opening the pustules with a sharp [illegible] out the contents, then [illegible] stick dipped in Monsel's solution as a cau[illegible]. After opening the pustules, he sponged [illegible] per cent solution of carbolized water. He [illegible] soap and recommended bathing the face [illegible] night and morning, after which rub in [illegible] 2 per cent solution of salicylic [illegible] is to be mixed with three parts water, and gradually made stronger and stronger until it is used pure. He gives internally 1-10 gr doses of calomel every [illegible] for a few days with a pill of aloin, strychnia and belladonna. These preparations are alternated every few days with sulphur tablets 1 gr every two hours and tablets of [illegible] 1 gr arsenic 1 20 gr and strychnia 1 30 gr every four hours. Other remedies were recommended, but he had found none so efficacious as these. The after treatment consists in the exhibition of a general course of tonics and the mineral acids or iron, cod liver oil or arsenic, as seems best suited to the individual case in hand

Dr [illegible] Dixon, of Henderson, contributed a paper entitled "An Atypical Case of Appendicitis," which emphasized the necessity of early operation in all cases, whether they be acute, perforating, fulminating with general peritonitis, or acute suppurating, with local plastic peritonitis and abscess, or, in other words, as soon as the diagnosis is made, regardless of the favorability of the case. He believes appendicitis to be an infective exudative inflammation, septic in character from its incipiency. The very moment the appendix takes on inflammatory action it at once proves a soil rich in character, plowed, harrowed and in every way fit for the growth of septic bacteria. In a majority of cases, if operation be performed within forty eight hours after the onset of the symptoms, the appendix is not yet ruptured, and can be removed without pus infection of the peritoneum, an advantage of which even the boldest surgeon is pleased to avail himself. In the latter stage, if the surgeon is fortunate enough to be called at the time that the peritoneum is flooded with pus and the patient collapsed, it is his duty to perform the operation, and give the patient a chance for his life in this forlorn condition. The rule, first, last and always, should be to operate in every case of appendicitis, promising or unpromising, at the earliest possible moment

Dr T C Evans, of Louisville, followed with a paper entitled "Adenoid Growths in the Naso pharynx" In this paper the author desired to speak only of the abnormal condition of those masses of lymphoid tissue situated in that part of the respiratory tract, known and described as the naso pharynx. Meyer, of Copenhagen, in 1868 was the first to describe this condition. The disease consists of an hypertrophy of the lymphoid tissue which encircles the naso pharyngeal portion of the respiratory tract, blocking up the space and mechanically interfering with or altogether preventing nasal respiration. This hypertrophy usually involves, to a greater or less extent, the faucial tonsils and other contiguous lymphoid masses. The diagnosis is easily made from the characteristic symptoms. The treatment is either expectant or surgical. The expectant plan is at best long, tedious and uncertain, entailing years of suspense on the part of physician and parent, and subjecting the patient to dangers which, once encountered can not be corrected. Surgically, most operators now confine themselves to one of two methods 1, removal by the post-nasal curette, and, 2, removal by post-nasal cutting forceps

Dr J M Greene, of Lexington, read a paper entitled "Leucocytes in Diseases of Microbic Origin" The author said the older physicians explained the etiology of diseases generally by the term *materies morbi*, of which they had no very definite idea, believing that it represented certain poisons emanating from the earth and conveyed to the system through the medium of the atmosphere, water and food. They were aware also that the system under certain circumstances had the power of resisting disease, also of performing cures unaided by the efforts of the physician. This was expressed in the oft-quoted aphorism, *vis medicatrix naturæ*. It was reserved for the modern science of bacteriology to show that materies morbi are really living germs, which on entering the system become pathogenic in character, also that the power of cure resides really in the white corpuscles of the blood. While engaged in this important work they are called phagocytes. Before entering upon a discussion of the progress of phagocytosis, the author dwelt upon the peculiar nature of the leucocytes themselves. There were two principal indications for treatment of all diseases of microbic origin. First to destroy the germs as soon after invasion as possible and at their point of entrance. Second, to overcome the effects of toxins after they had been formed

Dr T B Greenley, of Meadow Lawn, read a paper entitled

THE PREVENTION AND TREATMENT OF PULMONARY TUBERCULOSIS

It has been the observation of the writer for many years that the majority of cases of this disease are preceded by a longer or shorter period of impaired health apparently due to indigestion and deficient assimilation. Especially is this condition presented in those who are constitutionally predisposed to the disease. The writer entertains the opinion that if proper means were instituted sufficiently early in these cases to restore them to their ordinary health, that the disease in the majority of cases might be prevented. The means indicated consist mainly in the use of proper diet and exercise in the open air, observing at the same time sanitary environment

As to the treatment of pulmonary tuberculosis, a great deal can be accomplished in its earliest stages by the use of proper alimentation or the building-up system

Dr Greenley then outlined the plan of treatment adopted by Dr Carasso in treating this disease. From the record it appears that every case of primary tuberculosis treated by the inhalation method of Carasso recovered, and that the fatal cases with but two exceptions were ones in which secondary tubercular lesions produced death. The average duration of the treatment in these cases was sixty days. The simplicity and harmlessness of the method, together with the remarkably successful outcome of his cases (Carasso's) recommend the method for a thorough and systematic clinical test. Perhaps the most rational as well as the truly hopeful plan of managing pulmonary tuberculosis, is before it is fully developed. Preventive means are much better than curative, but both combined in some cases are better than either alone, in order to prevent further development

Several of the papers on the program were read by title. After the appointment of delegates to the next meeting of the American Medical Association, the presentation and adoption of resolutions of thanks, the Society then adjourned to meet at Lebanon in 1896

Colorado State Medical Society

Abstract of the Proceedings of the Twenty-fifth Annual Meeting, held at Denver, June 18 and 19, 1895

[Special correspondence of the Journal]

Thursday, June 18

The meeting was called to order by the President, Dr Hubert Work, of Pueblo. The reports of various officers and committees showed the society to be in a flourishing condition with a slight net increase of membership during the past year and a balance in the treasury

The Executive Committee reported a rule limiting readers of papers to fifteen minutes each, and remarks in discussion to five minutes, which rule being adopted and rigidly adhered to throughout the meeting, rendered possible the satisfactory completion of a full program, and added much to the success of the meeting

"The Relationship Existing between the Eye and Diseases of the Brain," was the subject of a paper by Dr R F Le Mond, of Denver. He called attention to the intimate connection of these two organs, and its clinical importance. In a case of astigmatism it is the recognition on the part of the brain that the eye is unable to properly and comfortably do its work, that gives rise to the train of symptoms usually set up By nervous impulses sent out from the brain are brought about the irritation congestion and photophobia that cause the closure of the eye and suspension of its work, the train of symptoms being designed to protect the organ from more serious injury He also urged the great diagnostic value of optic neuritis, inequality of the pupils optic nerve atrophy, and hemianopsia in cases presenting severe headache or other indications of organic disease of the brain

"Observations regarding Eye Strain and its Relief" were presented by Dr Edward Jackson of Philadelphia He pointed out that ametropia and eye strain were neither identical nor necessarily connected that either might be present in high degree without the other that the recognition of ametropia was not essential to the diagnosis of eye strain, and did not alone establish it He also called attention to the severe symptoms often arising from comparatively slight errors of refraction especially those remaining after inaccurate corrections, and after middle life when the lowest degrees of hyperopia or astigmatism were most likely to tempt their possessor to undue exertion of the ciliary muscle The period of adaptation during which the best fitted glasses were likely to prove unsatisfactory and which is not sufficiently emphasized in the books, was also referred to It was essential that the patient be forewarned of its occurrence, or he would take it as evidence of failure on the part of his adviser to find the proper glass, and lose confidence to the detriment of both himself and his physician

"Inflammation of the Middle Ear with Involvement of the Mastoid" Dr W C Bane, of Denver, stated that the majority of cases of pyogenic inflammation of the brain and its membranes were due to similar disease of the middle ear and mastoid He reported five cases of such disease, four of which had required opening of the mastoid, and all had recovered The first was in a man aged 59 who came for pain and dizziness He had a small perforation in the drum membrane Two months later he returned with a swelling below the ear half the size of a goose egg and unhealthy pus escaping from the meatus The removal of diseased tissue was followed by complete recovery A man aged 27 suffered from acute purulent inflammation of the middle ear for about one month There was a large perforation but the mastoid became involved and rendered necessary the excavation of its entire contents A young woman suffering from a subacute otitis media with a small perforation the discharge having stopped, had tenderness and swelling over the mastoid requiring operation In a boy with acute inflammation, involving the mastoid, the symptoms yielded without operation In the fifth case, a man aged 41 with acute otitis media had severe mastoid symptoms which not being relieved by other measures, the mastoid was opened and showed that the process of disintegration had already begun

"Laryngeal Infiltration" was the subject of a communication by Dr P F Gildea, of Colorado Springs He reported a case of severe tubercular infiltration, and pointed out that where there is much submucous tissue great infiltration occurs before there is ulceration but where there is but little submucous tissue, ulceration takes place early

Dr E T Boyd, of Leadville, exhibited an improved snare for the removal of nasal hypertrophies, etc The improvement consisted chiefly in the addition of a pin arranged to slide upon the canula, with which the part to be removed could be securely transfixed before tightening the snare, preventing any slipping of the loop, or the dropping of the portion removed

REFLEX IRRITATION FOLLOWING EYE STRAIN

Dr D H Coover, in illustration of the intimate relation existing between the eye and the brain and the remote effects liable to arise from eye strain, reported a series of cases A school girl suffered from frequent attacks characterized by general convulsions The correction of her compound hyperopic astigmatism entirely stopped these attacks Subsequently she lost her glasses and went five days without them during which time she had four attacks A girl aged 11 had seizures in which she became unconscious and convulsed She had had seven such attacks The examination of her eyes showed two diopters of astigmatism, she was given convex 1 50 D for constant use For three months she did not have a seizure Then one occurred, her glasses were changed to a full correction, and she remained entirely free from attacks ever since A young woman who had long been subject to nausea and vomiting, especially in the morning, was entirely relieved by the correction of her compound hyperopic astigmatism A boy of 16, working hard at school, became affected with chorea He was given correcting glasses, and recovered in a month A man aged 45 had been for years troubled with a dry hollow cough, which was worse at night and worse when he was very busy He obtained the greatest relief by going away from his business entirely Examination of his eyes revealed compound hyperopic astigmatism He was given correcting glasses, wore them all the time, and in three months was well of the cough

Dr G Melville Black, of Denver reported as "A Case of Angio neurotic Edema of the Ocular Conjunctiva," the case of a man who was suddenly affected with great swelling of the conjunctiva and lids without other evidence of serious inflammation The swelling passed away with equal rapidity But very few similar cases were found recorded in medical literature

Dr John M Foster, of Denver, exhibited a case illustrating the results obtained by "Blepharoplasty by Thiersch' Grafting" The patient had after traumatism a cicatricial contraction of the upper lid, drawing it completely away from the eyeball and preventing its closure so that the conjunctiva was suffering from continued exposure to irritants Two operations were required Some contraction having occurred after the first, the stitches uniting the lids after the second operation were left in place until the forty-eighth day The result was an almost perfect restoration of the lid to its normal appearance and function

DIAGNOSIS AND PRINCIPLES OF TREATMENT OF HIP JOINT DISEASE

Dr John Ridlon, of Chicago, delivered an address upon this topic He thought every physician should know enough about this disease, 1, to recognize it, 2, to understand the general principles of its treatment, and 3, to be able to recognize when it was fully cured For diagnosis, the three early and constant symptoms are limp shrinking of the affected limb as shown by comparative measurements of the girth of the two thighs, and limitation of the movements of the joint in all directions Other common symptoms are restlessness during sleep, with sudden crying out, particularly in the early part of the night, deformity, if the case has gone far enough, pain, which is not usually one of the early symptoms, and may be entirely absent, and abscess which is present in about 50 per cent of cases The differential diagnosis has to be made with reference to Pott's lumbar disease, sacro-iliac disease, congenital dislocation of the hip, and hysterical hip-joint In the latter condition there is never any diminution in the size of the limb

In treatment the object is to secure functional rest by preventing motion, and so far as possible removing pressure from the opposing surfaces of the joint To prevent motion an apparatus must extend from close above the ankle to the armpits To remove pressure the patient might be kept in bed But this can not be continued throughout the treatment, so the only thing to do is to put a shoe on the sound limb with a heel high enough to take the weight all off the other As to operation, he thought that the more experience the surgeon had with operating, the less was he inclined to operate If by operation all diseased tissue could be removed, and immediate union of the wound secured, it would be right to operate But incision and drainage were not justified, and aspiration and the injection of the abscess cavity with iodoform were not worth the pain and disturbance that attended them In the diagnosis of cure the greatest caution must be observed When all symptoms have been absent for six months you may think the case is getting well, but do not tell any one that you think so Gradually relax some of the restraints of the limb, and if there is no tendency to relapse after some months give the patient slightly more freedom, and so continue until, after years of close observation of case, it may be concluded that the case is cured

"The Treatment of Lateral Curvature of the Spine," was the subject of a paper by Dr Geo B Packard, of Denver He advised the relief of the weakened spine from the superincumbent weight, by rest in bed for a couple of hours in the middle of the day close watching of the general health gymnastic exercises, and the support of a properly fitted jacket

Dr S D Van Meter, of Denver, urged the importance of circumcision For very many it is needful, though some may not require it If it were universally practiced health would be promoted, and venereal disease and reflex troubles diminished

Dr Chas A Powers, formerly of New York, but now of Denver, read a paper on 'Cancer of the Rectum and its Ex-

[illegible] the Method of Kraske and Modifications Thereof." He reported four cases of which three had recovered and [illegible] terminated fatally He believed there were [illegible] few cases that could be cured by opera[illegible] [illegible] He had in these cases used the [illegible] Kraske but would in future try the more re[illegible] plastic method In cases where it [illegible] to preserve the anus preliminary colotomy [illegible] The selection of cases proper for opera[illegible] important and where it was found that the [illegible] too far for complete removal the [illegible] be made, but a simple colotomy re[illegible] rendered it necessary All [illegible] the [illegible] of the rectum should [illegible] examination The only hope of [illegible] early [illegible] and prompt and thorough

[illegible] of Denver, reported a series of Surgi[illegible] of curetting of the hip and ankle [illegible] of the great trochanter in which [illegible] all followed by recovery In [illegible] which had lasted for several [illegible] was found to be due to internal strangu[illegible] old adhesions In a case of chronic dilata[illegible] in which the Murphy button was used [illegible] anastomosis between the stomach and jeju[illegible] patient died soon after from other causes The [illegible] found to be perfect, the button had fallen into [illegible] He reported five cases of acute appendicitis [illegible] all recovered In one the length of the appen[illegible] and a half inches He also reported two cases [illegible] and one of partial operation on an exten[illegible] greatly benefiting the patient

"[illegible] the Femur for Angular Deformity" was dis[illegible] W [illegible] of Denver, who reported a case [illegible] outward from exaggeration of the nat[illegible] femur by the action of the strongly at[illegible] Even with a transverse fracture and no [illegible] shortening of three inches He prac[illegible] a V shaped incision, in preference to [illegible] it caused practically no loss of natural [illegible] shortening

[illegible] of Denver, reported a "Case of [illegible] Dislocation of the Hip joint in Connection [illegible] Fever" The patient was a girl aged 10 years ation probably occurred about the fourth week ritis and malposition in bed About the sixth or eek some tenderness and deformity were noticed nth week, when seen, there was shortening of one f to two inches the head of the bone was on the f the ilium, and there was atrophy of the muscles joint Under a general anesthetic the dislocation ed at the second or third attempt The parts were sition and passive motion not begun until four here remained a slight but diminishing shortening h probably from lack of growth during the period tion

W GRANT, of Denver, reported a series of "Cases of itis," that he had operated on with recovery In the e, in which the general peritoneal cavity was in nfavorable symptoms developing including great , the colon was tapped, and this was followed by nprovement He believed that when the appendix ound in the abscess cavity, adhesions should not be searching for it The most dangerous cases were hich the appendix hung in the peritoneal cavity t think that every case must be operated on, but cases might require it Relapsing cases should ed on in the interval

(To be continued)

ican Electro-Therapeutic Association

nual Meeting held in New York Academy of Medicine New York, Sept 25, 26, and 27, 1894

WILLIAM J HERDMAN, M D, President

(Continued from page 980)

GARET A CLEAVES, of New York, read a paper on

IAL HYDRO ELECTRIC APPLICATIONS

s strange that considering the time in which ydro-electric applications have been used advan- not been taken of the opportunity offered by the mucous cavities of the body for such applications So far as I am aware, nothing has been done in this regard save by the Boudet de Paris method in the treatment of intestinal occlusion, and direct application of electricity to the stomach as developed by Dr Max Einhorn of New York Neither have come into the prominence which their merits deserve but this is to be explained, no doubt, by the fact that these applications require a good deal of time on the part of the operator and patient, and in the case of applications to the stomach, upon the discomfort attending the introduction and presence of the stomach electrode

Since establishing my methods of localized hydro electric applications to the accessible mucous cavities of the body, I have found two references with which I was not familiar before Dr W S Hedley, of Brighton, England, in his book on "Hydro Electric Applications," refers to the possibility of applying electric douches and calls attention to their value in the event of suitable means being devised for their use he has not, however, resorted to these measures, although he has used electric douches for an ulcerating cancer situated externally, with marked amelioration Beard and Rockwell in a few paragraphs call attention to hydro electric applications and say that in accessible places, as in various cavities of the body, ulcers, sores, etc, water used as an electrode is an excellent method for applying electricity, and they further state that ordinary douches can be used for the eye, ear, stomach, rectum, uterus, etc, so long as the current is not sent out in a spray, and recommend the use of Potter's apparatus for these purposes This apparatus I am not familiar with

A brief résumé[1] of the development of the Boudet de Paris method and its work in intestinal occlusion can not fail to be of interest here In surgical operations for this condition the mortality is variously given from 58 to 64 per cent

By the work of Duchenne de Boulogne in localized electrical applications, attention was first drawn to the advantages of electricity in the treatment of obstinate constipation and intestinal obstructions He used the induced currents almost entirely for his physiologic and pathologic studies, and others have followed in his footsteps In 1876, however, Leroy d J tolles observed that unstriped muscular tissue was not excited by the excitations of an induction coil, but on the contrary, such excitations were the most powerful in causing contraction of striped muscle Later, in 1882, Boudet de Paris insisted on this distinction and proved that only slow excitations of continuous currents could have any direct influence on intestinal contraction, and that, therefore, the constant current should be preferred to the induced current in the treatment of occlusions But at the same time of the experiments of Boudet de Paris, the induced and constant currents were indiscriminately used in the treatment of intestinal occlusion and constipation It has been shown, however, by many experimenters that smooth muscular fiber is excited with difficulty by induced currents The reason is a physical one, and is explained by the fact that the induced current proceeds by shocks of very short duration, sufficient to move the striated muscle which contracts quickly, but insufficient to put in action the unstriated fiber in which the contractions are characterized by a tracing of the form of a prolonged undulation One has but to recall the character of the graphic curve of an induced current to appreciate this fact Experiments upon the intestinal tracts of healthy animals show that at the end of a few seconds there is an increase in the peristaltic movements, but diminishing the excitability of the intestine artificially by distension with air, the induced current within the limit of medicinal doses is found inactive On the contrary, the continuous current under these conditions shows itself capable of causing intestinal contraction and if in place of a continuous flow in one direction, there are reversals, it is easily proved that the intestine contracts no less readily than if it were not distended Theoretically, as in the case of intestinal occlusion, there is always more or less of paresis due to the conditions of the disease, the action of the continuous current is therefore preferable, but until the establishment of the Boudet de Paris method, there was no way by which this current could be used internally without producing a galvano caustic action at site of the internal electrode Such an action as this is most undesirable, and by extension of inflammation the danger of producing a stricture of the bowels is by no means small But very small current strength could be used, and even then there remained the danger of destructive polar action The question, however of treating these intestinal conditions has been settled most satisfactorily by the hydro-electric method of Boudet He uses an electrode made of rubber provided with a hollow metallic tube with a nozzle for the attachment of a fountain syringe and an attachment for the tip of the conducting cord as well The sound is provided with an eye upon the side and about 2 centimeters from the end or an opening situated quite at its extremity In the latter instance the metallic tube stops about 2 centimeters from the end of the sound

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[1] Revue d'Electrotherapie, October and November, 1892, Dr Larat

Technique—First the fountain syringe or irrigator should be filled with the lukewarm saturated solution of rock salt An Apostoli pad is placed upon the abdomen and attached to the positive pole while the active electrode is introduced into the rectum as deeply as possible, in order that the mass of water constituting the injection shall pass well into the intestine, where the reflexes controlling defecation are not active Connection is then made with the hose of the irrigator and with the negative terminal of the battery The stop-cock governing the flow of the water is opened and half the contents of the irrigator are allowed to flow slowly in and as the salt water flows into the intestine it becomes the electrode, carrying the current to every part of the mucous membrane with which it comes in contact This extensive water electrode, affording as it does a large square inch area of surface, makes it possible to secure by the use of low E M F, a larger current strength and therefore great electrical energy without pain or discomfort In case of pseudo strangulation and obstruction due to fecal matter, the continuous flow is sufficient, but where there is an obstacle to overcome, stronger excitations by reversing the current after the first five or six minutes are necessary The needle should be carried back to zero, poles reversed and current turned on to former strength This will almost always produce an intestinal contraction, accompanied by a desire to defecate This should be resisted by the patient as much as possible until the séance is completed, but if it can not be overcome, the treatment should be suspended and the patient urged to use all the possible effort to expel the contents of the bowels One of the three things follows either there is an abundant evacuation, feces are expelled mixed with gas, or the water passes only slightly colored, with or without gas In the last two instances it is necessary to repeat the electrical enema in from seven to eight hours If indicated, at least three applications can be made in the twenty-four hours Larat reports 70 per cent of successful cases out of 150 in the hands of Boudet de Paris His own results are not quite so good, viz, 101 successful cases out of 230, but still make a satisfactory showing He remarks that his cases were all seen by his colleagues of whom at least half were doctors in the hospitals, who called him in to assist their patients This statement is made to show that his statistics have been well tried As to contra indications all insurmountable mechanical obstacles, either outside of the intestine or down within its cavity must be treated with the knife The indications[2] for the use of electricity are where 'the obstacle can be overcome by a very strong contraction of the intestine, as in cases of 'stercorate' obstruction, intestinal palsy, 'enteraptose," stricture from a tumor, if the astriction is not absolute, or foreign body in the intestinal cavity " It is his custom in a case of intestinal occlusion where a purgative has been tried without any result, not to insist upon its further use, but immediately to give an electric injection In twenty-four hours, he says, this will be recognized as successful or the contrary In the case of a failure a surgical operation should be suggested In this way much valuable time would be saved, surgical measures would oftener be of avail while many cases would recover by the intervention of the electric douche, who would otherwise be condemned to the shock of an operation It was supposed that peritonitis would be found to be a contra indication to the electric douche Larat details several cases which demonstrate very conclusively that such is not the case but where its use tended to cut short the progress of the disease

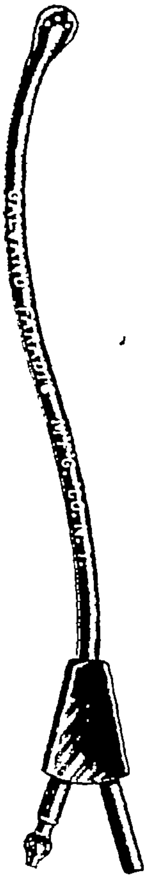
While Larat reports a few cases in which there have been unfortunate results, his reports would seem to indicate that they were due to the disease rather than, as was suggested, to the use of the electric douche The slowness with which the liquid of the irrigator is introduced into the intestine, would naturally seem to do away with the fear of a break in the diseased intestinal tissue with the passage of the liquid in the intestinal cavity One would expect this accident to happen more often with the forced injections of seltzer water

This method however, is not only of great value in the treatment of intestinal occlusion but in constipation and in many of the diseased conditions of the gastro intestinal tract as well

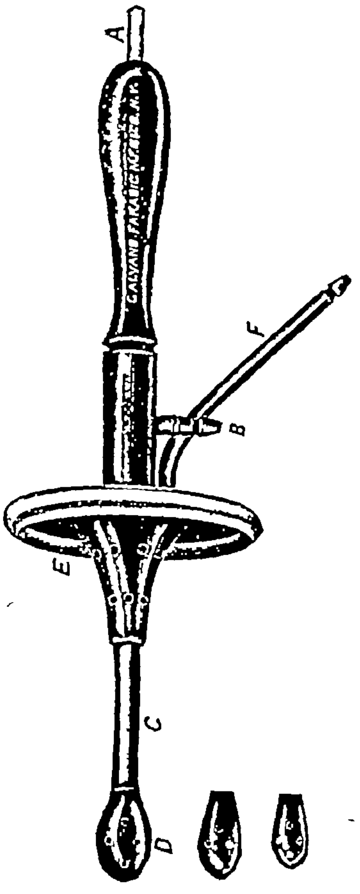
For constipation the technique is the same It is my custom to use from a quart to three quarts of lukewarm salt water according to the patient's toleration I do not always carry the solution to the point of saturation The negative pole is used for the active or intestinal electrode in order that its well known stimulating properties due to the presence of the bases and hydrogen may be utilized The C S varies from 5 to 10 20 milliamperes or more and reversals are made once, twice or several times, according to the needs of the case As physiologic experiments go to prove that the stimulation of nutrition proceeds from the administration of mild currents, the higher currents are not deemed advisable In ordinary cases, the continuous flow is sufficient, but where the response to the stimulus is not prompt, reversals are made Sometimes I use the automatic interrupter of the continuous current, but I prefer a subsequent application of an alternating current

Individual cases govern the amount of water used, C S, duration of séance and frequency of application

The applications are usually given for three successive days, when if the result is entirely satisfactory, *i e*, complete emptying of the bowels of fecal matter and gas, with a tendency to a return of normal peristalsis they are discontinued and the subsequent treatment carried out by means of the Franklinic current with long percussive sparks to the lumbar and sacral plexuses, hepatic area and abdominal walls three times a week and continued until there is complete elimination of toxins, improved metabolism nutritional gain and normal functional activity This is aided or not by medication, according to the case—oftener not Cathartics are almost never given Every hygienic and dietetic detail is considered, as well as habits and dress



Rectal Electrode



Vaginal Electrode

I present here a rectal electrode which was made for me at my request (with the other electrodes for the various hydro electric applications) by the Galvano-Faradic Manufacturing Company of New York City All of these electrodes have been constructed with platinum wire for the conducting medium, extending from the point at which the water enters the electrode to within a quarter, to a half inch of the end of the perforated rubber tip By the use of platinum it becomes possible at once to use not only negative but positive currents and any drug cataphorically that one may desire At first carbon tubes were used, but as it was found that platinum wire could be substituted without increasing the expense, this was done

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[2] Larat Revue d Electrotherapie, October, 1892

The long and curved rectal electrode is intended to pass as far as the sigmoid flexure By its use the water can be diffused more thoroughly into the intestinal tract and consequently the current carried farther or in the event of disease at the sigmoid flexure a localized action may be obtained at that part either by means of the constant current douche, negative or by cataphoric medication utilizing any drug that may be indicated

In the treatment of constipation by electricity there is a beneficent action upon the circulation respiration and general nutrition As a result of its action there is a modification of the abdominal circulation and certain conditions of [illegible] congestion disappear, especially as found in cases of abdominal plethora Under its influence both the volume and the force of the muscles are increased The atonic intestinal muscles again become capable of action, while the strength of the accessory muscles, as those of the abdominal wall is increased

The evil results which follow chronic constipation are legion and every method other than drug taking deserves careful investigation and experimentation at our hands To establish a rational therapy great care must be taken in determining the cause of the condition

Atony of the intestine is considered one of the most frequent causes of constipation and may be described as a condition in which the walls of the colon have lost their tonicity and therefore are unable to expel feces at the normal rate In all cases dependent upon atony of the muscles of the intestine or abdominal walls, the best measures are electricity, exercise, massage and hydrotherapy.

In many of the diseased conditions of the gastro intestinal tract hydroelectric applications stand us in good stead For instance in intestinal catarrh enteritis, simple pseudomembranous or follicular in chronic thickening of the mucous membrane and in chronic diarrhea due to fermentative and putrefactive conditions The stimulating effect of the electric current on the nervous system, and secondarily upon the muscular and glandular tissues thus localized tends to restore healthful function The nutrition of the part is promoted by the physical properties of the current, electrolysis and cataphoresis These are conditions in which drugs fail if depended upon alone and which must, to a very great extent be combated by local measures

One of the very intractable intestinal conditions with which we meet, namely that of pseudo-membranous enteritis, is estimated by Prof Germain Sée[4] to be found in about one third of the patients principally women, who are treated for gastric derangement The pain and swelling over the colon, and gaseous fermentations are symptomatic of the condition, but the distinguishing feature of the disease is the presence in the stools of mucus, glairy and cylindrical masses *In the treatment of* pseudo membranous enteritis, I have found applications of negative currents by means of the *Boudet de Paris method exceedingly* valuable Within the past two years I have treated several such cases characterized by the usual muco membranous discharges All had run a *persistently chronic* course, were characterized by irregular exacerbations, lack of marked febrile excitement, persistent derangement of the intestinal canal, mental depression and general impairment of health, also by more or less gastric disturbance, impaired appetite, repugnance to food, furred tongue, and foul breath They were all of some years' standing, and had resisted the remedial agents administered from time to time when under the care of different physicians At this time, however, these patients have good and normal appetites The gastric and intestinal distress has disappeared, the bowels are regular, and the general health markedly improved and none of them have membranous casts any longer in the discharges

After the first applications there was noted a change in the appearance of the tongue, which in the interval of the first and second treatments lost its coating and the red and irritable condition at the sides and tip From six to eight negative applications were made in these cases with a C S of from 10 to 30 milliampères, the quantity of the douche varying according to the patient's toleration from one pint to three quarts The time of the continuance of the current averaged ten minutes at each treatment An ordinary Apostoli pad was placed over the abdomen

In the so-called recurrent attacks of peritonitis in gouty subjects, which are really gout of the intestine and in those cases of gastro enteric rheumatism affecting the nerves of the alimentary tract and simulating in some cases, by the character of the pain, trouble with the pelvic organs, I have found negative hydro electric applications of the intestinal tract of undoubted curative value A patient under care *this past winter, a gouty* subject, came to me with a history of prolonged pelvic trouble (seven years, and for which she *had been three months in a hospital,* curetted, douched, etc, and subsequently *treated by means* of intra uterine applications *à la* Apostoli) continued to have recurrent attacks of severe pain that diminished gradually, neuralgic in character, associated with bloating, tenderness, *slight feverishness,* great anxiety, loss of appetite and *mental depression* The cycle of pain and disturbance would complete itself in from two to four weeks to be followed at intervals by another and yet another Here intra-uterine treatment accomplished but little, *in fact, I may* say nothing at all, save to relieve slight sensitiveness of the endometrium, but intrarectal negative hydro-electric douches relieved all symptoms, improved the constipation, and established the general health In this case I shall expect *a return of the symptoms* when the conditions are favorable for an attack of *gout*, as the patient does not live in such a way, so far as diet and exercise are concerned, to lessen the chances of its recurrence

Haig considers that many cases of colic, enteralgia, enteritis and typhlitis are really gouty *manifestations located* in the intestine From my experience, the constant current used externally in chronic peritonitis, I should expect to get much better results from hydro electric applications

In addition to the thorough system of intestinal irrigation already practiced in *cholera, positive electrolysis of suitable* fluids within the intestinal tract, or diffusion of appropriate drugs into the submucous structure by means of the electric douche might prove a valuable aid

After the electric injection, patients have sometimes complained of a burning sensation and smarting in the anus This is not caused by the electricity, unless perchance there should be some oozing of the water between the sides of the electrode and the anal walls It has often seemed in some cases to be due to the intense saltness of the water Larat has suggested where this is much complained of that Vichy might be used instead

In using this method in the treatment of chronic constipation, I found that patients who were suffering as well from exudative *material in the* pelvic cavity noted an amelioration of the symptoms arising from that condition, which upon physical examination I was able to corroborate This led me to utilize it in the treatment of pelvic exudates and also to a certain extent in other pelvic conditions, such as ovaritis, relaxed conditions of the uterus etc I was very glad indeed, to avail myself of its use, as for a long time I had been extremely averse to the application of the constant current by means of the vaginal electrodes in common use Even in the hands of the expert, I found great *danger* in the use of the most carefully constructed vaginal electrode of producing at point of contact, galvano-caustic action, and in the *hands of those less expert* I have seen very bad eschara resulting in gangrenous sloughs followed by slight hemorrhage I was convinced that the method was intrinsically faulty and that some other way must be resorted to, to bring the tissue of the pelvic organs under the influence of the current, and thus my observations with the electric enema led to the construction of an electrode for the purposes of vaginal electric douches In exudative inflammations of the pelvis, as well as in the diseases of the vulva and vagina, the principal aim of the gynecologist is to obtain the resolution effects of the current, and by use of the water electrode it is no longer the apparatus, but all the tissues with which it comes in contact, which becomes the electrode and the active pole of the circuit With the large surface thus brought under its immediate action, one obtains a great enough force of the current to influence the entire pelvic tissues

In these administrations with an observed E M F of 90 volts, an observed current of 40 milliampères and an observed time of 600 seconds, there was obtained by calculation a resistance of 2,250 ohms, the power (*i e*, the rate of expending energy) 3 6 volt ampères or watts, and the total energy expended, 2,160 volt-ampère seconds or joules) resulting in severe contractions in the muscular fiber of the uterus which patients have likened to labor pains That the current density was not under these circumstances sufficient through any given tissue to produce a galvano-caustic action, is the best evidence of the great *utility of the method* of application

The electrode which I show here has already been described[5] I now use platinum wire, however, instead of a

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[3] Henoch, Medical News, August 11, 1891

[4] London Lancet, Jan 6, 1891, p 65

carbon tube for the conducting medium It will readily be seen that there is no point of contact of the conducting material of the electrode with the mucous membrane in either rectal or vaginal applications The salt water or the medicated solution, whatever its nature, is the electrode Since the description of this electrode I have substituted a douche pan for the drainage hose This obviates all danger of wetting the patient's clothing in any given application

Thus far I have used the vaginal hydro electric applications in vulvitis, pruritis vulvæ, simple and diabetic, eczema of the vulva, chronic vaginitis, gonorrheal vaginitis erosions of the cervix, relaxed and congested condition of the uterus and vaginal walls in leucorrhœas dependent upon the same, and in displacements associated with these conditions, in pelvic exudates ovaritis, and supplementary to intra uterine applications in fibroids, endometritis and salpingitis

In gonorrheal vaginitis—a condition which is recognized as extremely difficult to treat—it will be possible by this method to bring not only the os and the cervix uteri, but every interstice of the vagina as well, under the influence of medicated solutions and thus combat the specific condition The fact that the gonococcus penetrates the submucous structure, makes it very desirable that we should be able to apply our remedies in such a manner as to insure their destruction By cataphoric medication this is possible, as the medicament not only comes in contact with the mucous membrane, but is caused to penetrate more or less deeply into its structure according to the law of cataphoretic transfer

In the conditions indicating the use of an alternating current either alone, or as supplementary to an application of the constant current I frequently apply it by means of the water electrode, with the result of a much more sensible diffusion of the current being felt throughout the pelvic basin by the patient than is experienced from the ordinary mono polar or bi polar applications

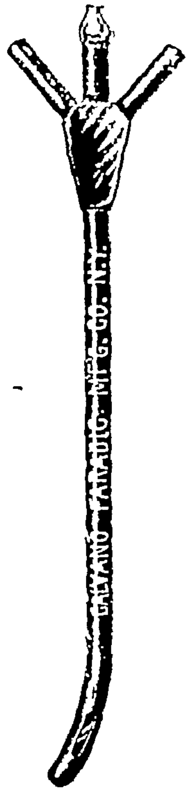
In a case of chronic vaginitis and eczema of the vulva, of twenty years' standing with the most intolerable itching, for which the patient had resorted to various means for relief and obtained none, I have found this electrode of the greatest value In this case the entire mucous membrane of the inner aspect of the labia was thickened leathery and fissured At the ostium urethrale and vaginæ the color was an intense crimson The same condition extended into the vagina There was extreme sensitiveness upon digital examination, and the patient was worn and harassed by the continued irritation from which she had not been free in all these years, despite the heroic measures that had been used to insure recovery After one application of the negative galvanic current in the form of a douche, there was marked relief from the constant irritation and a tendency to heal on the part of the fissures After four applications had been given, extending over a period of two weeks, the mucous membrane was found to be as sound and whole as that of a child, and the congestion at the mouth of the vagina and urethra had entirely disappeared, the mucous membrane having returned to its normal color and condition There was complete cessation of the itching which had made the patient's life wellnigh intolerable, and a most marked improvement manifest in her general appearance She remains under observation

In making the application, the tendency is for the water to flow out against the shield, and in that way to come in contact with every part of the mucous membrane of the vulva Patients find this method of applying the current exceedingly tolerable, and in the conditions for which I have used it thus far there has been an invariable expression of relief following its use In conditions demanding it, the vaginal douche is supplemented by a douche to the external genitals as in eczema, etc

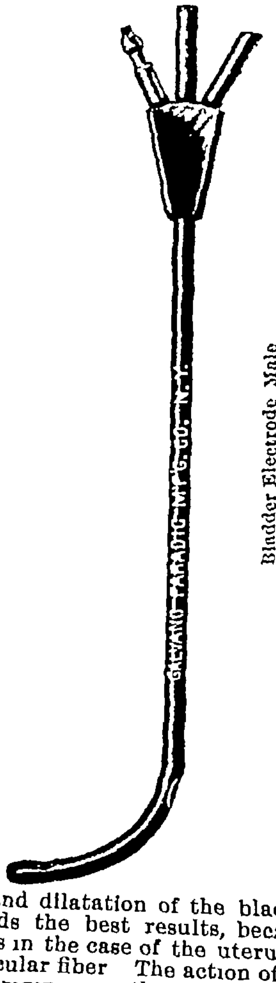
Since I entered upon an investigation of these methods, I have had the opportunity of treating several cases of bladder trouble and of gonorrheal infection The method should be particularly valuable in cystitis acute, but especially chronic, in gonorrheal infections of the cyst, in atony and dilatation, in fact, in any condition where the known properties of either continuous or alternating currents would be of value The applications which I have thus far made have, with low current strength, 5 to 20 milliampères, been without pain or even irritation

The electrode for these applications is, like the others, constructed of hard rubber and is similar to the ordinary two way catheter used for vesical irrigation with a third branch for the battery attachment

The nature of gonorrhea emphasizes the necessity of resorting to every method which offers a chance for the destruction of the gonococci ere the opportunity is afforded them of migration and infection of other mucous and serous cavities The difficulty in the way of doing this is fully recognized It seems to me that in cataphoresis we have a measure which, from its physical nature, is destined to be of great influence in combating the primary disease As in four fifths of the cases the urethra is recognized as the seat of the disease, it is found necessary to direct therapeutic measures to that anatomical site As it is a fact that the gonococci do not thrive in the bladder, the use of hydro-electric applications as directed to that organ and the vagina can not be depended upon alone to accomplish their destruction Here, in addition to the use of cupric electrolysis to the urethral canal, the cataphoric douche applied directly to the ostium urethrale itself can not fail to prove helpful In negative hydro electric applications with a saline solution, every indication for the washing out of vagina, bladder, and all infected tissues with an alkalin solution is abundantly met, and then by the cataphoric douche the medicament, whether copper sulphate, bichlorid of mercury, zinc sulphate, etc, can be driven directly into the submucous structure of the tissues about the urethra



Bladder Electrode Female



Bladder Electrode Male

In the treatment of atony and dilatation of the bladder the continuous current affords the best results, because structurally we have to deal as in the case of the uterus or intestines with unstriped muscular fiber The action of the negative electric douche as it impinges on the mucous membrane is necessarily stimulating, inducing muscular contraction, as well as by its action upon the blood supply, improving the nutrition of the part The method is unquestionably applicable in every diseased condition of the bladder where electricity is indicated, unless it be a localized lesion, where the galvano caustic action of the current is desired

A limited experience with hydro-electric applications to the nose and ear suggests that they may have their value, at least in the conditions where an ordinary douche would be indicated In diseased conditions of the nasal passages and accessory sinuses, it is rational to expect that we will get the best result wherever there is an atrophic change Let us glance for a moment, however, at the inflammatory conditions which precede these atrophic changes[6] Here we

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New York Medical Record August 25, 1894

[6] I Braden Kyle The Etiology, Pathology and Treatment of Ozena Medical News, May 5, 1894

have [illegible] engorged vessels causing intra-vascular pressure, followed by exudation which relieves the intra-vascular pressure, but which in turn brings about extra-vascular pressure or [illegible] interstitial infiltration. As a result of the organization of the exudative matter there will be interstitial thickening, followed by contraction, and in either case nutrition will be interfered with, causing a certain amount of atrophy with [illegible] hypersecretion and alteration dependent upon the [illegible] of [illegible]. In these conditions I should [illegible] the [illegible] use of a cataphoric electric douche, [illegible] medicated according to indications to so relieve [illegible] matter [illegible] as to prevent the subsequent [illegible]. I have had no opportunity of trying it in [illegible] conditions but throw out the suggestion. If the [illegible] of the [illegible] which has a tendency when [illegible] can by this means be overcome, [illegible] will be much less liable to [illegible] of muscular fiber has been demonstrated [illegible] membrane by Herzfeld of Per[illegible] by Kolliker and Zuckerkandl. This [illegible] value in all these conditions of an [illegible] douche as well, for wherever there is [illegible] will be an increased attraction in response [illegible] stimulus with the result of inviting fresh arterial [illegible] part, thereby relieving congestion and [illegible] into healthful activity. The first [illegible] that of cleansing the mucous membrane [illegible] alkaline solution can not be more effectually [illegible] by a negative constant current douche (saline solution) [illegible] by the electrolytic action of the current, there [illegible] part the hydrogen and alkalies. With the [illegible] there is to be obtained at the same time the [illegible] effect of the current stimulating the parts to a healthy nutrition.

In the atrophies and degenerations where a maximum stimulating effect is desired a cataphoric douche may be administered. Any drug (soluble in water) indicated in these conditions could be used whose electric diffusion is established. The clinical value of cupric electrolysis (with a copper electrode) suggests a solution of $CuSO_4$ used as a cataphoric douche. I have used this to advantage in atrophic rhinitis.

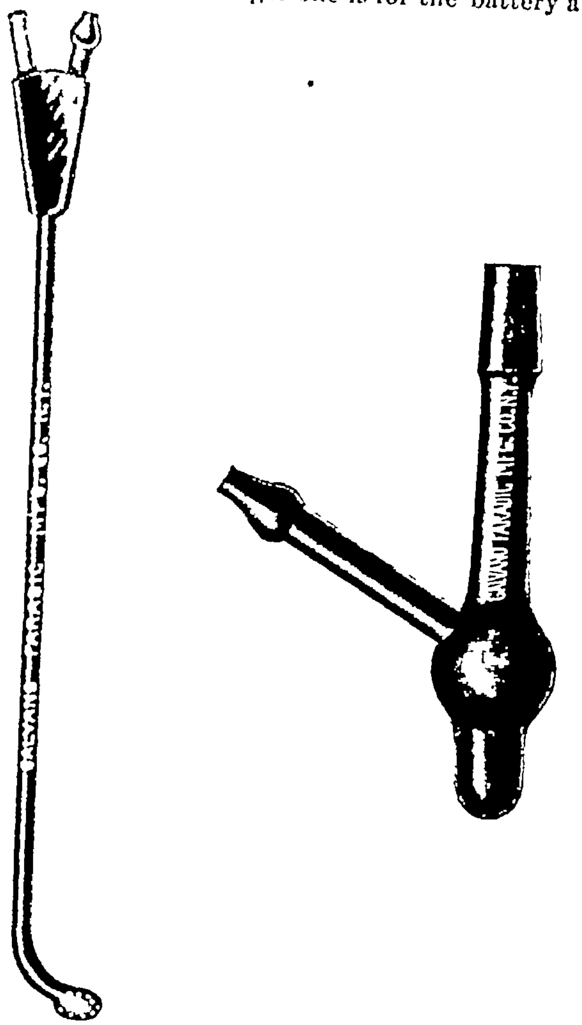
The value of copious, hot saline douches in the treatment of inflammations of the ethmoidal sinuses suggests the thought that in electric douches, simple or medicated, we may have an agent of still greater value.

In post-nasal applications the stimulating and consequently curative effect of the electric douche would be greater than that of the ordinary washing out or topical administration of medicated solutions, or here again, a cataphoric douche would not only free the passages from accumulated secretions but drive at the same time, whatever medicament is used into the submucous structures where it would have an opportunity for beneficent action.

In congested and relaxed conditions of the pharyngeal mucous membrane I use the post-nasal electrode attached to the ordinary irrigating bottle or fountain syringe. Here the douche can only be applied momentarily. Even so, the diseased tissue may be brought much more promptly under the influence of drugs by cataphoresis than by means of the ordinary medicated spray.

In the treatment of thickening of the drum, where it is desirable to bring the membrane under the influence of the negative pole, the water electrode is particularly adapted. One can use requisite current strength without any danger of galvano caustic action and whenever it is desired to bring the ear directly under the influence of alternating currents, we have here an extremely painless method of so doing. The indifferent electrode in the treatment of thickening of the drum can be placed at the mouth of the Eustachian tube, thus bringing the diseased tube and drum at the same time within the interpolar influence of the current. In such cases I have used the ordinary copper electrode—nasal—attached to the positive pole at the mouth of the Eustachian tube, and the negative water electrode to the ear. Here, by the electrolytic action at the positive pole, there is obtained an oxychlorid of copper which by the cataphoric property of the current is pushed or conveyed along the course of the tube, while at the same time there is a movement of the hydrogen and salts set free by the electrolytic action, toward and to the thickened membrane, where they act to improve the nutrition of the part. There is also obtained, as well, the characteristic influence of the current upon the circulation, inducing first an anemia followed by a hyperemia and ultimately an equalization of the circulation. As a result of such applications patients have remarked that there was a *smoother feeling* in the ear and a *feeling of life and warmth* not experienced before.

The electrode which I use for these applications to the ear and anterior nares is made of hard rubber and similar in shape to the usual ear nozzle of a fountain syringe. The shorter arm is for the attachment of the hose of the fountain syringe, while the longer one is for the battery attachment. The conducting medium as I have already indicated is a platinum wire carried to about one third of an inch from the distal end of the electrode, while a number of small apertures cause the water to flow out in the form of a rose.



(*To be continued.*)

Heilserum in Diphtheria.—Professor Bokai gives the following opinion before the Royal Society of Physicians in Buda-Pesth as the result obtained from 120 cases of diphtheria treated in the Stephanie Hospital, Buda-Pesth, Sept. 10 to Dec. 31, 1894. All cases were examined bacteriologically and Löffler's bacillus was found in all but five. 1, serum from a reputable source has a specific and beneficial effect; 2, the serum is superior to all other means of combating the disease, and no untoward effects have been observed, except urticaria in 10 per cent. of cases; 3, in severe laryngeal stenosis threatening death by suffocation, an operation, (intubation, tracheotomy) is a necessary addition to the serum-therapy; 4, in those cases in which the disease assumes a distinctly septic character from the beginning, the value of the serum is doubtful. Heart weakness due to organic changes and leading to paralysis, the serum can not relieve; 5, the question of prophylactic injections, from his lack of experience, is not decided for him, but from his results he believes that protective inoculations will be no less approved than the curative. The statistics of this hospital show that in 1891, of 135 cases of diphtheria 40 per cent. recovered; in 1892, of 92 cases 46½ per cent.; in 1893, 32½ per cent.; while in 1894, of 120 cases 74½ per cent. recovered. In the discussion following, Gerloczy referred to his use of serum in fifty-five cases and maintained that the serum offered no sure relief, yet he believed that by its general use the mortality is lessened about 10 per cent. and since he had observed no ill effects he regarded it as his duty to use the serum.—*Wiener Klinische Rundschau*, May 5, 1895.

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SATURDAY JULY 6, 1895

THE PRACTICE OF MEDICINE IN CITIES

The rush of young men, not well prepared, into the practice of medicine is likely to be checked and headed off for a time The State examinations for license to practice will raise the standard and drive out the incompetents and quacks In some of the large eastern cities new questions of professional peril are coming into prominence Teachers and specialists in every city have depended very largely on consultation practice The strain to secure a position in a medical college was, in most instances, to enlarge their acquaintance and consultation practice This has grown to such an extent that vacancies for teaching are bought and sold, not always for so much money, but for influence and prospective power to help the college and its teachers

The time came when the would-be medical teachers far exceeded the demand, and the polyclinics were organized This appeared to be a most fortunate opening for many, and the rush for places and professorships was the same as in the colleges Free services were offered, and large assessments were made to cover expenses and buildings, all freely paid The inland practitioner who came to improve and enlarge his knowledge was cultivated as one who would yield large returns in future consultations Elaborate and exhaustive studies in clinical surgery and medicine, by large, eminent faculties, are served up with earnest skill Classes of very enthusiastic physicians go away with hearty praise to the faculty and thankfulness These physicians return to work with not only greater skill and practical knowledge, but a degree of confidence to do all their own surgery, and be their own consultants They recognize the practical significance of saving the large consultant fees, and doing the work and keeping the case in their own hands They open hospital rooms and gather round them appliances and nurses for doing the work that large hospitals have concentrated in the cities Nearly all the large operations in surgery, occurring in persons who are able to pay, are retained and treated by the polyclinic students and graduates Hundreds of cases from the villages and towns, that were formerly sent to the large cities, are now treated at home

Physicians who wish to become expert in some line of surgery, take special courses at these schools and then return and treat all these different cases, while the poor, hard worked professor finds his dream of increasing consultation vanishing into thin air

The only class of cases that come in from the country are indigents, and the professor's skill and technical knowledge is assumed by graduates in every town of the land The poor professor is teaching and paying assessments to keep up the school and educating a class of stirring practical men to do the very work he depends on for a living This is theoretically most commendable, but, practically, to poor men in large cities it is destructive All medical teachers in eastern medical centers, who have not an income outside of their medical work, suffer and find the strain of practice growing greater every year A reversion is going on The country and village practitioner, who attends the polyclinic every year or more, and becomes familiar with the best methods of practice, is the peer of the city professor He can command and control his cases and collect his fees while living in most comfortable easy surroundings His brother in the city must keep up a style of wealth and prosperity, even although grim want may hang round the kitchen door If he is a teacher his time and money must be spent freely, although nothing tangible come back His love of science and willingness for sacrifice must rise above every other consideration

The polyclinics, while increasing the labors and strain of practice in large cities, are great blessings to the profession, especially to the army of isolated inland physicians, who are anxious to keep well up to the frontiers of science

They are equally valuable to those who realize their failures in early studies and preparation for work The present popularity of these schools will decline as better educated men come into the ranks of the profession In the meantime the frantic efforts to attract patients to the cities by free dispensaries and hospitals, where the foolish teachers give away their time and services for nothing must die away

At present, the hospital dispensary and much of the private practice of medicine in large cities is conducted on the most idiotic and childish principles

Some surgeon will charge $500 for an operation which he may have done a dozen times in the hospital within a month free on persons able to pay

Inducements are made for cases to come to large hospitals where the operations are free, only some nominal price of board is charged This has become an abuse which has produced much bitterness in many circles Free medical services, and a craze to teach students for nothing, and the increasing strain to secure patients to illustrate the service, and to furnish an income to subsist on, are grave perils to physicians in large cities It is a question which is the greater abuse, letting in an array of half-trained men to practice, or to sacrifice the members who are in, by demands for free services and free labor, and placing them in positions which require the greatest effort and struggle to even make a living

Now that the first abuse is to be corrected, is it not wise to agitate the next question, How is the practice in large cities to be regulated so that medical men can receive a rational and substantial recognition for their services How is this foolish competition to become teachers, both cheapening the dignity and quality of the work, to be abandoned? Evidently some radical reforms are necessary, and this subject needs agitation

THE ANTI STREPTOCOCCIC SERUM

Among the more recent applications of serotherapy is that of treating infections of the streptococci with the serum of animals immunized against the microbe which—is comprehensively summarized by a *French contemporary*[1]—causes phlegmon, erysipelas and puerperal fever, which induces suppuration in cellular tissue, as in serous cavities, which is always present in the mouth and pharynx, which may, in short, give rise to a series of affections ranging from simple angina to peritonitis and which, moreover, complicates nearly all infectious diseases, both acute and chronic To successfully combat this terrible adversary would be to give aid of extraordinary power to the physician, the surgeon and the accoucheur It is this aid which various observers, especially Roger and Charrin, Marmorek and Chantemesse hope to have discovered in anti-streptococcic serum Mironoff first and then Charrin and Roger began by immunizing animals against the streptococci and, by injecting five or six cubic centimeters of serum from one of these immunized animals, prevented the development of the erysipelas microbe in the rabbit —one of the most susceptible animals Recently the last two observers immunized a mule by injecting, in eight séances, 240 cc of a toxin prepared by evaporating and sterilizing 2,400 cc of a bouillon culture of streptococcus With serum from this mule they cured in a few days two women suffering with grave puerperal infection, by injections amounting in one case to 30, and in the other to 96 cc The daily dose varied from 8 to 25 grams, according to the gravity of the symptoms, recovery occurred in three to four days and complete convalescence in five to six days In a weak new born child, with erysipelas they succeeded in jugulating the affection with 5 cc of the serum Finally, in a pseudo membranous angina, accompanied by serious depression with cardiac complications, temperature 106 2, pulse 148, a cure was obtained in three days by the daily injection of 30 cc of serum

At the same time Marmorek, at the Pasteur Institute, succeeded in immunizing the horse, ass and sheep, either by injecting weak cultures and then more and more virulent, or by increasing doses of a toxin prepared by simply filtering cultures in bouillon through porcelain

It is important to obtain as active a toxin as possible, and Marmorek, by passing a series through rabbits, obtained a culture which killed them in thirty hours in the dose of one one-hundred thousandth of a centimeter The animals were immunized with this very energetic toxin, though this required several months and several hundred rabbits to obtain the required potency

Erysipelas was also treated by Marmorek and Chantemesse Of eighty-six cases, forty appeared benign and were treated by ordinary methods, forty-six were grave and received serotherapy, all recovered save one old woman, who died of pneumonia ten hours after admission They injected 5 to 20 cc of the serum The general condition was ameliorated, the temperature was lowered in a very short time, and where there was albumin in the urine this disappeared very rapidly under the treatment

These authors claim that albuminuria accompanying erysipelas is cured by serotherapy This claim is important, for some observers claim that the anti-diphtheritic serum has an injurious effect on the parenchymatous organs and especially on the kidneys Some patients recovered in spite of an unfavorable prognosis given by the authors, none of the cases were followed by phlegmon or by abscess as is the rule in grave cases of erysipelas According to the authors this result is due to the activity of the toxin employed to immunize the animals—the larger the dose of the active toxin the greater their degree of immunity This immunization is a long and delicate process, for the animals react with extraordinary violence to even the smallest dose of the toxin These results are encouraging but demand confirmation, for nothing is more variable than the gravity of erysipelas and the prognosis is always difficult

As to the other varieties of streptococcus infection, the cases are too few to form any reliable opinion, though Marmorek is still engaged in researches and promises some further observations shortly

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[1] Jour des Sciences Med de Lille No 17, 1895

ANTIVENIN, THE LATEST CONTRIBUTION TO SERUM THERAPY

According to the *Press and Circular* June 12, Dr **Thomas R Fraser**, professor of *materia medica* in the University of Edinburgh, has made a very significant announcement regarding his original work with serpent poisons Early in the month of June Dr **Fraser** read a paper before the Royal Society, showing that animals may be immunized against the venom of the cobra as well as other serpents He also showed that antidotal properties inhere in the blood serum of such immunized animals Dr **Fraser** opened his paper with a historical account of the beliefs and traditions of the Hindoos and others, that poisonous serpents are self-immunized by some result of the absorption of their venom

Since the year 1889, Dr **Fraser** has been in receipt, from different parts of the globe, of supplies of snake poison, especially of the Indian cobra, and with this had performed many experiments on animals in the hope of producing immunity The results he obtained passed his most sanguine expectations

Continuing its abstract of Dr **Fraser**'s paper, the *Press and Circular* says

"Experimenting on rabbits, among other animals, he first satisfied himself as to the amount of the poison which constituted the minimum lethal dose He then proceeded to inject quantities below this amount, and found that he could gradually increase them to *fifty* times the dose originally fatal But not only that, for a buck rabbit, which he exhibited, and which was then in about the one hundred and fiftieth day of treatment, had gained enormously in weight, from 2,000 grams to 3,000 grams, and had increased greatly in strength, and especially in virile power Again, he found that the mixture of 1-240 cc of serum obtained from a rabbit immunized to thirty times the minimum lethal dose with cobra venom averted a fatal result on injection, while the injection of a similar serum half an hour after the injection of a venom which otherwise proved fatal in one hour, promptly stopped the symptoms which had already commenced, and saved the life of the animal He called this protective serum by the name of 'Antivenin' He also mentioned as an interesting fact that the rabbit above referred to had received during the months of treatment *enough cobra poison to kill two horses*, or about two hundred and eighty rabbits if unprotected Not only are Dr **Fraser**'s results of the greatest value for the treatment of snake bite in India and other tropical countries, but, as he himself remarked, they possess a deeper significance in accentuating, as they do, the wonderful progress made in serum therapy during the last few years, and are an earnest of still more wonderful discoveries yet to be made in the same direction It appears also that immunizing an animal with the venom of one kind of serpent *protects it from the poison of other species*"

In conclusion, it may be said that Dr **Fraser** is well known for his original investigations concerning calabar bean and the other ordeal poisons of West Africa We may confidently predict that his findings will be confirmed

AN INTERNATIONAL CONVENTION OF BACTERIOLOGISTS

The bacteriologists of the country held a convention, June 21 and 22, in the New York Academy of Medicine, under the presidency of Dr **William H Welch**, of the Johns Hopkins University On the first day of the conference, papers were read by Drs **Fuller**, **Welch**, **Surgeon-General Sternberg** and Drs **Sedgwick** and **Cheesman**

The most important work of the convention was the appointment of a committee to investigate the bacterial field as applied chiefly to the water supplies of cities, and to decide as to the standard types, methods of cultivation, and the interpretation of results

The following delegates were appointed upon this committee Prof J S **Adams** of McGill University, Montreal, Chairman, Prof W F **Sedgwick**, Biologist of the Massachusetts State Board of Health, Dr G W **Fuller**, Biologist in charge of the Lawrence Experiment Station of the Massachusetts State Board of Health, Dr **Charles Smart**, U S A, Chairman of the Committee on Water Supply of the American Public Health Association, Dr T M **Cheesman** of the College of Physicians and Surgeons, **Theobald Smith** of the Massachusetts State Board of Health, Dr A C **Abbott** of the University of Pennsylvania, and Prof W H **Welch**

A LONDON "REFUSE DESTRUCTOR" PLANT ON A LARGE SCALE

In one of the parochial districts of London, St Pancras, the problem of disposing of municipal refuse at the lowest cost is being solved And more than that, this refuse is made of practical value in connection with tne parochial electric-lighting works The city refuse, or "dust," to use the English word, is consumed in specially constructed furnaces, and the heat thus generated used to produce power to run the electric plant

These new buildings cover an area of two acres and a half, facing King's Road, and the most noticeable feature of the plant is the huge chimney that rises to a height of 231 feet, and that cost over $15,000 to erect The total cost of the plant has been $500,000

The "dust" is collected throughout the district by carts and carried to a rear entrance, weighed and tipped into enormous tanks on each side of the main shed To these tanks are attached hoppers, which convey the refuse to furnaces of new design, and considered to be of the best type now existing

A novel feature of the whole scheme is its general automatic working, which requires the least possible outlay of manual labor For instance, the furnace is fitted with an ingenious appliance of alternating bars moving up and down with an eccentric forward motion, carrying the refuse continually toward the center of the fire

There are eighteen furnaces, capable of consuming 1,200 tons of dust per week There is but a small amount of "clinker" left behind, and this is withdrawn every six hours This can be used to form an exceptionally tenacious mortar, and its sale, (together with certain minor expenses) will yield a probable gain to the parish of $25,000 per annum

The fiery gases from the burning material pass through long flues to the engine room of the electric works, pass around and in front of the boilers into an 'economizer,' and so into the chimney. The destructors are said to produce 12,000 degrees of heat, and supply from 300 to 400 horse power to the boilers Efficiency with economy is proved possible in this scheme For instance, the water needed is procured by saving the waste steam, passing it through a condenser and a water softening apparatus, pumping it to the top of the building to a cooler, whence it returns to a tank of 115,000 gallons capacity

There will be a saving in cartage of refuse, a saving in coal at the electric station, and a saving to the taxpayers who will have cheaper and better street lighting, and a valuable asset

The *Lloyd's Newspaper*, from which the above description is taken, remarks "The possibilities of the use of city refuse as fuel may be followed by as interesting results as was the discovery of the value of the despised coal-tar, and also of refuse petroleum "

ASSOCIATION NEWS.

Section on Surgery and Anatomy — *Minutes of Meeting of 1895* The Section was called to order on Tuesday May 7, 1895, at 3 o'clock P M by the chairmen Dr Jos Ransohoff of Cincinnati, Ohio, who delivered his inaugural address, dwelling in it on the diagnosis and treatment of stone in the kidney and presenting four specimens of kidney stones which he had removed

The following papers were then read "Cystoscopy, Catheterization of the Ureters and Catheterization of the Kidneys in the Female," by Howard A Kelly, Baltimore, Md , ' Aëro Urethroscopy with the Exhibition of a new Instrument," by W K Otis, New York, N Y , "The Value of Urethroscopy in Chronic Urethritis with demonstration of the Nitze Oberlaender, Casperand Posner Urethroscopes and other Urethral Instruments," by Ferd C Valentine, New York, N Y , and were discussed by Drs Otis of New York, Deaver of Pennsylvania, Valentine of New York

Dr Valentine also asked leave to present in behalf of Professor Posner of Berlin, Germany, a paper on " Cryptogenic Cystitis and Pyelitis" which was received and read by title

A paper on ' Movable Kidney" was then read by Homer Gage of Massachusetts, and discussed by Dr Wyman, of Michigan , De Forrest Willard, of Pennsylvania , Weeks of Maine , Ferguson, New York , J B Roberts, of Pennsylvania , Fenger of Illinois and Davis of Alabama

A paper on the same subject by Dr E B Davis, of Barmingham, Ala , was read by title

A paper on the " Radical Cure of Hydrocele" was read by D C Hawley, Vermont, and discussed by Drs McLean, Michigan , Gaston, Georgia , Vance, Kentucky and Rodman of Kentucky

A paper on " Erosion, Excision and Amputation in Joint Diseases" was read by De Forest Willard of Philadelphia, Pa The chairman appointed as a nominating committee Drs De Forest Willard, Pennsylvania, J B Murphy Illinois Weeks of Maine Adjourned

The Section was called to order at 9 o'clock A M Wednesday May 8 and a paper entitled " A Note on the Surgical Cure of Hernia' was read by W B De Garma New York

The subject of ' Appendicitis ' was then treated by John B Deaver, Philadelphia, Pa , and discussed by Drs Weeks, Maine , McMonigle California , Wyman, Michigan , Quimby, New Jersey , Murphy Illinois; Marcy, Massachusetts , Hawley, Vermont , Herrick Ohio , Willard, Pennsylvania , Bishop, Pennsylvania, and closed by Dr Deaver

The Secretary then showed for Dr J C Schepps of Brooklyn, N Y , an improved elastic tourniquett

' Thoracic Troubles from a Surgical Standpoint" was the title of a paper by J McFadden Gaston, Georgia which was discussed by Drs Wenz, Pennsylvania , Willets, California , Risley, Pennsylvania, and the Section then adjourned until afternoon

The Section was called to order at 3 o'clock P M Wednesday, May 8, and a paper on 'The Treatment of Malignant Tumors by the Toxins of the Streptococcus of Erysipelas," read by Nicholas Senn, Chicago, Ill Discussed by Drs W B Coley, New York , Sayre New York , Rocky, Oregon , Wyeth, New York , Herrick, Ohio , and Kern, Pennsylvania

The following papers were discussed together "Tumors of the Mammary Gland " by W L Rodman, Louisville, Ky , ' Is Total Extirpation of the Rectum ever Justified" by J M Mathews Louisville, Ky , "Colotomy vs Extirpation in Cases of Cancer of the Rectum,' by L H Adler, Philadelphia, Pa Discussed by Drs Tiffany, Maryland , Keene, Pennsylvania , Fenger, Illinois , Jacobson , Rocky Oregon Marcy, Massachusetts , Davis, Missouri, and closed by the readers of the papers

The Nominating Committee reported the names of Drs C A Wheaton, St Paul, Minn for chairman, and Dr W L Estes, South Bethlehem, Pa , for Secretary for the ensuing year On motion, the secretary was directed to cast the vote of the Section for these gentlemen who were thereupon declared elected

A paper on " Bronchiogenous Carcinoma," by Charles A Powers, Denver, Colo , was then read by title

The following papers were read " An Original Osteoplastic Operation for the Removal of large Vascular Tumors Growing in the Vault of the Naso-Pharynx, Antrum of Highmore, Spheno-Maxillary, and Pterygo-Maxillary Fissures," by John A Wyeth, New York, N Y , " Electrolysis in the Treatment of Sacculated Aneurysm, through Introduced Wire, with Report of a Successful Case," by D D Stewart, and J J Sallinger, Philadelphia, Pa

The Section then adjourned until the following morning

The Section was called to order at 9 o'clock A M , Thursday, May 9, and a paper on ' Some Points in Asepsis in Private Dwellings with the demonstration of some new Aseptic Appliances," was read by Carl Beck, of New York, N Y , followed by papers on " Ileus," by J B Murphy, Chicago, Ill , " Scientific Uses of the Surgical Flap," George Wiley Broome St Louis, Mo , " The Surgical Technique of Aseptic Wounds," by Henry O Marcy, Boston, Mass , "Flat-Foot—Supramalleolar Osteotomy with Report of a Case, Photographs and Specimens of Feet of Man, Orang, Baboon, Chimpanzee and Gorilla," B Merrill Ricketts, Cincinnati, Ohio

The Section then adjourned until the *afternoon*

The Section was called to order at 3 P M , and the Secretary having been called away, *Dr J C Oliver, of* Cincinnati, was elected Secretary *pro tem*

Dr Murphy's paper on " Ileus " was discussed and the following papers were read "Gall Stones in the Common Duct and their Surgical Treatment, with remarks on the ball-valve action of floating Choledochus Stones," by Christian Fenger, Chicago Ill , " Skin grafting after the Method of Thiersch," by J C Oliver, Cincinnati, Ohio , " Exsection of the Knee Joint, with Report of a Case of complete Dislocation of the Knee, of nine years standing, and with especial Reference to Methods of Fixation," by S F Forbes Toledo, Ohio

In connection with this paper, Dr Marcy, of Boston, Mass showed a case of hip joint resection done by Dr L A Sayre in 1876 The head and neck of the femur had necroses and the femur was sawed through just below the trochanter *minor*

He had excellent motion in the joint and made the difference in the length of his legs which amounted to six inches hardly noticeable by means of an extension shoe, which was laced to his foot and which allowed the use of an ordinary pair of shoes the patient walking with the toe pointed instead of at right angles to the leg

Dr Marcy also exhibited a series of double tubes made by George Tiemann & Co of New York after patterns devised by him many years since and for a long time now in general use The larger ones are designed for the washing out of the stomach, rectal irrigation, etc The smaller are catheters in various sizes both male and female The efferent tube is twice the size of the direct in order to prevent over distension They are made in the same finish as the rubber catheters The value of these soft rubber tubes for the purpose of irrigation has somewhat recently been emphasized at the Johns Hopkins Hospital from which they have been offered to the profession as a recent invention of one of the members of the medical staff It is on this account that they are presented to the Section

The following papers were then read "The New Surgical Splinting—Report of Cases Exemplifying it" by J A Tracy Boston, Mass, "A Simple Method of Dressing Fractures of the Extremities auxiliary to the Bandage" by John F Link, Terre Haute Ind

The Section then adjourned till Friday morning when it reconvened at 9 A M, and the following paper was read "Deformities following Fractures of the Shafts of Bones" by Thomas H Manley, New York, N Y

The Section then adjourned for the year

REGINALD H SAYRE, Secretary

CORRESPONDENCE

The Michigan Practice of Medicine Act

CHARLOTTE, MICH, July 1, 1895

To the Editor —In the JOURNAL of June 15, in the editorial columns, I notice the report of the Michigan Medical Society for its recent meeting I wish to call your attention to this paragraph which I herewith quote "Michigan, still, by deliberate act of its Legislature, remains the dumping ground for the world's incompetent and dishonest doctors"

The Legislature of Michigan in its last session passed the bill to regulate the practice of medicine and to prevent that which you deplore as well as all honest and intelligent people It would have become a law, *but for the veto of the Governor*, who only exercised that prerogative after the Legislature had adjourned, and could not pass it over the veto for that reason

Hoping you will correct the misstatement, and do justice to at least a portion of Michigan's unfortunates,

I remain yours, G B ALLEN, M D

Member of the Legislature and Representative 2d District, Eaton County

ANSWER "For of all sad words of tongue or pen
The saddest are these 'It might have been'"

PUBLIC HEALTH

Yellow Fever —Press dispatches announce the existence of yellow fever at Tampa, Fla, July 4

Added Duties in the New York Board of Health —The Health Board of New York City, along with the fire, excise and building departments, since the recent annexation of a territory covering about 20,000 acres of land, with a population of 17,000, must now extend its lines This recent addition which more than doubles the city's territory north of the Harlem River, adds more than a third to New York's domain Many a problem of drainage, grading and water supply remains to be solved, with the inevitable conflict between taxpayers and sanitarians

A Navy Yard Garbage Destructor —At the Brooklyn navy yard, a small garbage destructor has been put into operation The crematory is a structure about 25 x 30 The framework is steel, and the outer walls are made of corrugated iron Within this is the oven or crematory proper This latter is composed of brick stone and iron There are six doors or openings to the crematory One of them is used for making the fire another for removing the wood ashes, and the other four are the openings through which the cremated garbage is drawn *The garbage is introduced at the top of furnace*, the garbage wagon taking its loads there by means of an inclined plane and platform The fuel used is largely the waste wood which is collected from the work shops of the yard The capacity of this destructor is said to be ten tons daily

"Malta Fever"—In a brief paper contributed to the London *Lancet* W Hill Climo, a retired brigade surgeon, points out that the history of the so called "Malta fever" is strangely similar to what obtained a few years ago in reference to the increasing prevalence of and mortality from enteric fever in India From time to time various explanations were hazarded to account for the phenomena connected with it, but they had to be discarded, and now the disease is admitted to be in every respect identical with the typhoid fever of European countries, being specific in origin, and traceable to a sewage polluted soil affecting the water supply It is believed that in the near future a like view will be taken of Malta fever and its specific character recognized, the disease originating in local insanitary conditions and the action of climate in its production being chiefly manifested by its influence on these conditions, and not directly on the constitutions of individuals in the first instance That such grave sanitary defects as Surgeon Climo describes should be allowed to exist unheeded in a military possession of the country which has done so much for military hygiene is quite as singular as the failure hitherto to recognize the specific filth character of the disease these defects have produced

Death Rates in Foreign Cities —The following statistics of foreign cities have been collected and collated, by the Paris *Herald*, for the year 1894 "Among the highest death rates are those of Moscow, 34 1 deaths per 1,000 of population, St Petersburg, 31 4, Rouen, 31 3, Havre, 29 8, Naples, 27 7, and Milan, 25 Dublin had a mortality of 24 7 per 1,000, Munich, 23 7, Cologne, 23 1, Prague, 22 1, and Bordeaux, 21 8 Among the lowest death rates are those of London, Liege and Berlin, respectively 17 7, 17 6 and 17.2 Still lower are the figures for The Hague, 16 9, for Frankfurt, 16 5, and for Bristol, 15 4 In cities where the population fluctuates rapidly, these figures may be slightly too large or too small But it is very noticeable that in some of the large towns and cities of Europe the actual death rate has been immensely reduced by modern sanitation The mortality of London in 1870 was 24 3 per 1,0000, and in 1881 21 6 The death rate in Paris in 1881 was 25 5 but it is now only 20 2 As late as 1873 Berlin's death rate was 28, and in 1878 Professor Virchow showed it was increasing It is, therefore, apparently a great triumph of sanitary science that in 1894 it should be so low"

Infectious Disease Hospital on Wheels —In a rural section of Scotland there is in use an ambulatory hospital for infectious cases, that has been devised with no small degree of care The following is a portion of a description thereof in the *Medical Press and Circular*, May 22 "The county authorities of the eastern part of East Lothian have determined to provide their district with three hospital caravans for the purpose of treating infectious disease The first one was inspected the other day in Leith and gave great satisfaction The caravan, which will be drawn by two horses, measures, internally 19 x 10 x 8, giving an air space of 1,520 cubic feet It contains two beds, curtained off It has a double lining of wood and an end is made so that the panelling can be removed and the caravan placed against another caravan in corridor fashion It is well ventilated by means of Tobin's tubes and has another ventilator on the roof The total cost of each will be £100 The advantage of such a movable hospital in a rural district is manifest and even if there is a considerable epidemic in one part several caravans can be collected together there The difficulty we should suppose will be in such districts to procure proper accommodation for the nurses required and also about the effluent and sanitary disposal of excreta and infected clothing The caravan itself is so made that it can be thoroughly disinfected when necessary

Double Role of the Staphylococcus Albus—The white staphylococcus [illegible] found in pus and hitherto associated as the name implies with pus formation, has been found according to M Charrin, in considerable numbers in the breast milk of women apparently in the rudest health and whose nurslings thrive on their milk This discovery, which was proclaimed at a recent meeting of the Biological Society of Paris would seem according to Dr Dolan,[1] to strike a severe blow against the modern germ theory of disease In which connection Dr Dolan cites the observation of a writer in *[illegible]*, who says that in reality, as regards the breast as well as the bronchi, intestines etc, if the pathogenic agent frequently makes its entry from without, it also at times preexists *within the system awaiting some occasional* cause such as traumatism, a febrile affection, or other exciting agent in order to make its presence manifest by swarming Dr Dolan asks "What is the nature of this occasional cause?" Calling it traumatism, etc, does not help toward the elucidation of the knotty point The staphylococci at one moment are beneficial and wholesome toward *their human host*, at another they become virulently noxious What is the real cause of this change of front? It is *not too much to say that we know nothing* whatever about it"

To Reduce Infant Mortality.—"The Sterilized Milk Charity" in New York City will be continued during the summer of 1895 *The fourth of the sterilized milk booths for which* Mr Nathan Straus has the permission of the Park Department *to erect, is to be situated in City Hall Park and will* probably be completed before this item is published Three others are already in operation, and the fifth will soon be built in Central Park The price is one cent per glass One of the newspapers remarks "Fewer calls upon the doctor is one of the advantages" Although the enterprise was begun in 1891, as late as July, and many of the booths were in operation barely *two months, a total of* 600,000 glasses of milk were sold With the earlier start this year and the increased popular knowledge regarding the plan, the total is likely to be doubled The scheme has heavy expenses aside from the cost of the milk There is a pay-roll of those engaged solely in this work which foots up $300 a week now, and is likely to be materially increased during the height of the season To begin with, twenty-two young women are employed as clerks in the eleven booths and depots Then eight men and two boys are needed upon the trucks which are constantly busy carrying the milk from the railway terminals to the central distributing point, and thence to the booths and depots Tons of ice are consumed daily in keeping the milk cool, and the cost of construction of booths and rent of depots is a considerable item in the expense total

A Health Commissioner Resigns—A change has taken place in the New York City Board of Health Dr George B Fowler becomes Commissioner, *vice* Dr Cyrus Edson, resigning by request of Mayor Strong Dr Edson has sustained a good reputation in his public life, but he has the unfortunate handicap to bear of being too closely linked with the malign influences that grew out of Tammanyism Dr Edson's father is an ex-Mayor of the variety that sits now under public condemnation, so that the 'Tammany tiger cubs" as the New York *Herald* remarks, are not always judged according to their merits However, Dr Edson (unless the reporters have been misled) is reported as paying himself the following delicate tribute "I have given the best portion of my life to the service of the Board of Health, beginning on the lowest rung of the ladder I have held nearly every subordinate position to which a physician is eligible Through all these offices I have been promoted without a backward step I have served through several epidemics and have had the good fortune to direct my subordinates to such effect as to repeatedly stamp out contagious disease when it seriously threatened the people of the city I believe that the Board of Health was never *so efficient as* at the present time" When asked about alleged charges that he had been too free in the use of his official signature in mercantile ways, he is reported as replying "I have several lawsuits against firms who have used my name to advertise themselves" He said he was not sorry to give up the position, and that he could make more money by his private practice

"State Care" of the Insane of New York.—Although many strenuous efforts have been made to secure the passage and signature of an act to compel the county authorities of New York to transfer their pauper insane to the State Lunacy Commission, the result has been a failure in 1895 Mayor Strong declined to approve of the law, and the Governor could not sign it without that approval The New York *Herald* now appeals to the State Commissioners to proceed by urgent measures, through orders of the Supreme Court, to compel the county commissioners to amend existing abuses It demands that no delay be allowed in the matter of improving the maintenance of "the unfortunate creatures immured in the island madhouses and at Central Islip" The writer further argues the necessity for action by the Lunacy Commission as follows

"No one, better than the State Commissioners in Lunacy, realizes the shocking state of affairs in the New York city asylums They knew much before of the evil and neglect, the underfeeding, the wretched food and housing of the inmates, the insufficient number of attendants and the brutal nature of some of the men employed They knew of the filthy bedding and the filthy bathing They have made reports upon these features and have made recommendations which have been ignored It is time for them to act in the premises The law gives them ample power They have already resorted to extremities in Kings County, where they compelled the local authorities under an order from Judge Cullen, of the Supreme Court, to amend abuses Will they act now in the case of New York, or will they permit to exist the abuses of which they complained to Mayor Grant, to Mayor Gilroy and to Governor Morton? The Commissioners, alone, now have the power to terminate the inhumanity that disgraces New York, and which through failure to correct, bears upon the administration of Mayor Strong"

Mayor Swift of Chicago has appointed ex-Alderman Kerr to be Commissioner of Health of that city Much criticism has been evoked because the appointee is a non-medical man, but it is understood that a new Health Department will be created, on a sound basis, and on a scale equal to the needs of the city, as soon as the ordinance can be prepared, which it is expected will be ready on the reassembling of the City Council after the summer vacation Dr John B Hamilton, the editor of this JOURNAL, has, pending re-organization, been requested by the Mayor to act as consulting hygienist to the Health Department and in that capacity will prepare the plan for the new department In the meantime, Dr Frank W Reilly, the Assistant Commissioner of Health, formerly Secretary of the Illinois State Board of Health, will continue in his present position, to give necessary advice to the new Commissioner in the performance of his daily sanitary duties

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[1] Provincial Medical Journal, No 160, 1895

Health Reports—The following health reports have been received by the Supervising Surgeon-General Marine Hospital Service

SMALLPOX—FOREIGN

London	June 8 to 15, 1 death
Dublin	June 8 to 15, 1 case, 2 deaths
Alexandria	May 11 to 18, 1 death
Cairo	May 11 to 18, 3 deaths
Bologna	June 8 to 15, 1 case
Calcutta	May 11 to 18, 7 deaths
Havana	June 13 to 20, 8 deaths
Liverpool	June 8 to 15, 1 case
Madrid	May 26 to June 9, [illegible] deaths
Moscow	May 25 to June 1, 3 cases
Odessa	June 1 to 8, 6 cases
Prague	June 1 to 8, 9 cases
Rheims	June 8 to 15, 1 case
Rio de Janeiro	May 18 to 25, 3 deaths
Rotterdam	June 8 to 15, 1 case, 1 death

SMALLPOX—UNITED STATES

Tennessee	Memphis, June 15 to 20, 6 cases
Pennsylvania	Philadelphia, June 15 to 22, 1 case, 1 death
Missouri	St Louis, June 15 to 22, 1 case
Michigan	June 15 to 22 smallpox reported at Detroit and Olivet
Indiana	Evansville, June 10 to 26, 1 case

CHOLERA

Bombay	May 14 to 21, 2 deaths
Calcutta	May 11 to 18, 18 deaths
Hiogo	May 27 to June 3, 8 cases, 7 deaths

YELLOW FEVER

Havana	June 13 to 20, 10 cases, 5 deaths
Santiago de Cuba	June 8 to 22, 10 deaths
Maracaibo	June 8 to 15, 1 case, 1 death
Rio de Janeiro	May 18 to 25, 23 deaths
Vera Cruz	June 13 to 20, 8 deaths

NECROLOGY

LOUIS A HOFFMAN, M D, died June 1 at his home on Ferry Street, Newark, New Jersey He was a native of the United States and in his fortieth year He had been sick about five weeks with an attack of dysentery complicated with meningitis He had been a resident of Newark about four years and had served as one of the district inspectors of the Board of Health A widow and one son survive him

DR LEWIS D HARLOW, M D, died June 23, of heart disease at his home in Philadelphia He was in his usual health and attended to his practice up to the day before he died Dr Harlow was born June 16, 1818, in Vermont and was graduated in medicine by the University of Pennsylvania, in 1845 After spending a few years in country practice, he came to Philadelphia and was elected to a Chair in the Philadelphia College of Medicine and afterward to a Chair in the Pennsylvania College He was one of the founders of the Philadelphia Obstetrical Society, and its President in 1878 He was a member of the Academy of Medicine, Fellow of the College of Physicians and other societies He was a delegate to the AMERICAN MEDICAL ASSOCIATION meeting at Philadelphia in 1872

ALEXANDER BARNETT POPE, M D of New York City, died suddenly June 12, aged 35 years Dr Pope was a native of Washington, Georgia, and was educated at the University of Virginia His medical degree was obtained at the New York College of Physicians and Surgeons, class of 1884 In 1886, he was, for a time on the medical staff of Bellevue Hospital For some time past he had been connected with the Polyclinic, the Vanderbilt Clinic and St John Guild The position held by him at the clinic above named, from 1888, was in the department of diseases of children Among the other appointments held by him, was that of an attending physician at the Bellevue Hospital Dispensary, chair of general medicine from 1886 to 1888, in the Demilt Dispensary from 1888 in the department of the heart and lungs, which latter subjects were those of his polyclinic service The press notices refer to the fact that Dr Pope was possessed of considerable inherited property in Georgia and he was the nephew of Prof Polling A Pope, M D of Dallas, Texas It is also stated that several years ago while treating children he contracted diphtheria and scarlet fever and had a long siege of illness which left him with a weak heart

MISCELLANY

Dr A C Cotton of Chicago, has been appointed as City Physician to succeed Dr Todd

Bequests to New York Institutions—Under the will of the late Percy R Pyne, who died at Rome, Italy, in February, certain charitable objects are remembered The testator leaves the sum of $20 000 each to the Young Men's Christian Association in this city, St Luke's Hospital and the American Museum of Natural History

Conflagration at the New York Quarantine—On June 18, the Staten Island Station of the Health Officer at the Port of New York was destroyed by fire The building was a commodious frame structure, built in 1894, at a cost of $10,000 Dr Doty's residence, standing on a bluff, just above the station, was spared, although for a time in serious danger Many valuable records were destroyed in the burning building The cause of the fire was not discovered

Selection of Skilled Surgeons Discharges every Obligation.—The Supreme Court of Tennessee puts itself in line with the few courts which have before it passed upon the same question, by holding, in the case of Quinn v Kansas City, M & B R Co, May 2 1895, that, having selected surgeons skilled and competent in their profession, a railway corporation discharges every duty that humanity or sound morals impose, and that it is in no way liable for the mistakes they may subsequently commit

On the Roll of Honor—There are fifty three names on the Roll of Honor, inscribed on the dome of the new House of Representatives in the State House at Boston, Mass Each of these names is chosen as a representative of some great or worthy deed, or the opening of some new epoch Among these names appears that of Dr Thomas T G Morton as one of the founders of modern surgical anesthesia, chiefly because he made a definite series of experiments with sulphuric ether, in order to test the efficacy of that agent in the production of unconsciousness

Entitled to Compensation for Making Post-mortem Examination—Following its decision in the case of Flinn v Prairie County, reported in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, June 22, 1895, page 991, the Supreme Court of Arkansas holds, in Clark County v Kerstan, decided May 4, 1895, that a physician who makes a post-mortem examination at the request of the coroner is entitled to a reasonable compensation for so doing, but is not entitled to additional compensation for disclosing as a witness the results of the investigation and giving an opinion by reason of that knowledge and skill acquired by devotion to his particular profession, beyond the regular witness fees

Requisites to Collection of Compensation for Medical Services—The Indiana statutes make it unlawful for any person to practice medicine, surgery or obstetrics in that State without first having obtained a license to do so, and provide further that no action shall lie in favor of any person for services as physician, surgeon or obstetrician unless he shall have been so licensed prior to the rendering of the services Under such a law, the Appellate Court of the State holds, in the case of Cooper v Griffin decided May 14 1895, that it is not necessary, in filing a claim against an sion rate for accident and violence having been only [illegible] and the death rate 0 71 There were 21 cases of suicide during the year This annual number seldom varies much, the average of the past two years was 21 Gunshot was the method adopted in 10 of the cases

It appears from the recruiting records of the Home stations that of [illegible] candidates for enlistment inspected during the year [illegible] or [illegible] per thousand were found fit for service Only [illegible] per thousand were rejected for defective vision The acuteness of vision required for acceptance is only one fourth of that called for by the U S Regulations On the other hand as so many undeveloped boys present themselves before the British recruiting officers 281 80 per thousand examined were rejected as deficient in height weight or chest measurement Excluding boys under 17 years of age the average age of the recruits finally approved during the year was 19 4 years the average height 5 feet, 5 8 inches, the average weight [illegible] pounds and the chest measurement [illegible] inches Of every thousand 75 were well educated 877 were able to read and write, 16 able to read only and 32 unable to read

Of the colonies Canada and Bermuda each with a strength of about 1 400 men had the best health records, an admission rate of less than 600 per thousand of strength and a constant sick rate of about 31, although enteric fever was rather prevalent in the latter increasing its death rate to 10 10 as compared with 4 91 in Canada There were 48 cases with 9 deaths The disease was attributed to defective sewerage and the existence of cesspits near and even under the walls of buildings Cyprus, Malta and Gibraltar had rates which differ but little from those of the United Kingdom, with the understanding, however, that a certain number of cases were sent home as invalids, thus lessening the number of sick present with these commands At Cyprus, with an average strength of 550 men venereal affections were the prominent diseases constituting 105 6 admissions per thousand and 15 65 constantly sick At Malta, with an average strength of 7 161, there was an outbreak of enteric fever, 101 cases, of which 32 were fatal, and 935 cases of other continued fevers of which 5 were fatal A committee appointed to investigate this outbreak attributed it to infection in the milk supply and to impure water in the tanks The fever appeared within fifteen days after heavy rainfalls had filled the tanks, at a time when polluting matter was most likely to gain entrance with the rainfall At Gibraltar, strength 4 743 the sick rate was higher than in previous years, owing to the prevalence of simple continued fever and to the increased prevalence of venereal diseases The medical officer in charge of the station hospital considered that many of the febrile attacks were due to chill and that the heading "febricula" would represent their characteristics with greater fitness than simple continued fever The admission rate for venereal disease was 205 1 and the rate of constant sickness 18 32

The Mauritius had the largest admission rate With a strength of 551 its rate was 1,547 7 per thousand, 74 75 of constant sickness, a death rate of 17 30 and 58 78 sent home or discharged Malarial fevers of a severe and fatal type prevailed on the island during the greater part of the year, many of the cases being called "malignant" by the local practitioners Observation shows that prolonged residence in Mauritius increases the liability to these fevers and that there is no such thing as acclimatization as regards pure-blooded Europeans, residence in this colony, even when attacks of malarial fever are escaped, induces a general deterioration of the health In the fatal cases during the year, the blood appeared to be quite disorganized, as evidenced by petechial eruptions, lividity of the skin by the presence of blood in the vomited matter, urine and stools during life, and by a black fluid condition of the blood after death and very rapid decomposition of the body

Egypt, with a garrison of 5,073 had the highest death rate 23 25, with 72.29 constantly sick and 94 19 discharged or sent home per thousand The chief causes of non-efficiency were venereal affections, nearly one-third of the admissions being due to these diseases India, with a strength of 69,865 men gave the highest rate of constant sickness 76 22 with an admission rate of 1,148 3 and a death rate of 15 21 Enteric fever was not so frequent as usual and cholera was rare, but venereal diseases were largely prevalent and some of the cases of a most virulent type In the Bengal command the rate of constant sickness from venereal affections was 29 90 and in the Madras command 37 60 The total admissions for enteric fever in Bengal numbered 1,076 and the deaths 276 With seven exceptions the disease was present in every station of the command, 64 in number Rawalpindi had the largest number, 91 with 20 deaths These occurred mostly in young soldiers of less than one year's service At Umballa 78 cases with 23 deaths, at Lucknow 73 cases with 11 deaths and so on

The disease is *generally* believed to be contracted in bazars and villages or by drinking contaminated water from pools and ditches out of cantonments Mr Hanken biologist of the Northwestern Provinces government, found the bacillus of typhoid in several of the surface waters near Lucknow One medical officer, however reiterates his belief expressed in previous reports that a fever of a prolonged nature, having as its pathognomonic sign, ulceration of the ileum, can be caused without a specific excitant, that, in fact, youth, indiscretion undigested food, undue exposure to heat and to fatigue are factors enough in themselves to produce in many people a fever, the nature of which is such that 25 per cent of the patients die Several other observers mention that the cases which have occurred in their practice "have not been produced by specific poison"

The first of the appended papers consists as usual of a report on the progress of hygiene during the year but there is little in it that is not already familiar to readers of the JOURNAL The report on the International Congress of Buda-Pesth is stale reading, but Prof J Lane Notter of the Army Medical School prefaces it with an interesting account of the water and sewerage systems of certain continental cities inspected while en route to the meeting Surgeon Lieut-Colonel W S Pratt reports on the eighth congress of the Association Francaise de Chirurgie Surgeon-Major H E R James gives a full and valuable report on the plague at Hong Kong The remainder of the appended papers are mostly reports of surgical cases occurring in army practice

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from June 22, 1895 to June 28 1895

Capt ALFRED E BRADLEY, Asst Surgeon will be relieved from duty at Ft Custer Mont, upon the arrival there of Major WILLIAM C SHANNON, Surgeon and will report at Ft Yellowstone, Wyo, for duty at that post, relieving Capt CHARLES M GANDY, Asst Surgeon Capt GANDY on being thus relieved, will report for duty at Washington Bks, D C

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The Journal of the
American Medical Association

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ORIGINAL ARTICLES

MOVABLE KIDNEY

[illegible] Annual Meeting of the American Medical Association, [illegible] Baltimore, [illegible]

BY HOMER GAGE, A M, M D
WORCESTER, MASS

Uncomplicated movable kidney was first described by Riolan in 1649 and was even then characterized as *non sine vitæ detrimento* But very little attention was paid to the subject, however, until the beginning of the present century, and even as late as 1859 Fritz could find records of but thirty-five cases Since then a special literature has been created on the subject by the monographs of Rollet, Landau Linder and Newman, and by a multitude of important contributions to medical periodicals, and the number of reported cases has become too large to be easily followed There is, however, even now a very wide divergence of opinion with regard to the pathologic importance of movable kidney, and also with regard to its appropriate treatment I think it is fair to say that very many medical and surgical authorities still hesitate, as does Mr Tait, to attribute to the mobility of the kidney the varied train of symptoms with which it is so frequently associated, and in the matter of treatment, one may choose between the extreme views of Keppler, who advises immediate removal through the abdomen as soon as movable kidney causes any disturbance in the system, and of Newman and Drummond, who believe that in almost all cases an efficient external support will afford entire relief, or one may follow the vast majority of recent writers in accepting nephrorrhaphy as the simplest, safest and surest remedy In view of the still unsettled opinion which prevails with regard to these questions, I have ventured to introduce the subject for your consideration by reporting as briefly as I can, two of the six cases of movable kidney which have come under my own observation, both present histories that seem to me of rather unusual surgical interest, and a sufficient time has now elapsed to enable us to judge something of the permanency of the results

Case 1—Mrs K., 29 years old, was admitted to the Worcester City Hospital Nov 5, 1891 Until within seven months, she had always been well and strong, had been married five years, but had never been pregnant For seven months past had had pain in the right side of the abdomen, and in the region of the umbilicus, severe enough to prevent her from doing any but the very lightest housework The pain had increased gradually but steadily, and, what was especially interesting, had been worse when in a recumbent position She was a stout, healthy-looking woman, who had evidently been accustomed to hard work Examination of right side over painful area revealed an oval tumor, hard freely movable, as large as the closed fist It could be moved easily into the median line down to the level of the umbilicus and would, if depressed disappear up under the ribs Pressure occasioned a peculiar sickening feeling with nausea and faintness The urine had a specific gravity of 1008, the twenty four hour amount was forty-seven ounces and there was no albumin Diagnosis right movable kidney On the 23d, I did nephrorrhaphy through an incision three inches long, extending from the top of the twelfth rib downward and forward The surface of the kidney was scarified and three stout chromicized catgut sutures were passed through the edges of the wound and through the capsule or cortex of the kidney, one fourth of an inch from its outer border The wound was closed around a rubber drainage tube which was removed the third day At the end of two weeks, she was entirely free from pain in her right side, and at the time of her discharge, four weeks later, there had been no recurrence She did, however, during these last four weeks, have very severe and unaccountable pains in her left side Two months later she presented herself at my office, saying that she felt perfectly well, so far as her right side was concerned, but continued to have more and pain in the left side, and had discovered a bunch similar to the one which had existed on the right She further said that just before the first operation, while lifting a stove, she had felt something give way in her left side and had had considerable pain for several days Nothing, however, was said about this at the time, nor during her convalescence The left kidney could be distinctly felt, dropping downward and forward nearly to the umbilicus The right seemed firmly fixed I advised her to wear a firm abdominal support, and did not see her again until April Her own testimony, and her mother's, showed plainly that she had been much better since the first operation She had gained ten pounds in weight and had been able to do much more work about the house Still if on her feet very long, or if she tried to walk much she suffered from pain referred chiefly to the region of the umbilicus She could not turn over in bed, or make any quick motion, whether lying down or standing, on account of pain in the left side which she described as sharp, hard, and very like the pain in the right side before the operation For two or three weeks past had noticed some pain in region of right kidney The left kidney could be easily felt and was rather more movable than at previous examination The right one was just palpable beneath and below the margin of the ribs and could be made to slip back against the posterior wall No relief having been obtained from the abdominal supporter, I sutured the left kidney on April 10, 1892, through an incision similar to that made use of before I found it even more movable than the right had been and could push it easily down to the brim of the pelvis Three sutures of silk, instead of catgut, were passed exactly as in the first operation, a drainage tube inserted, and the wound closed I allowed the tube to remain a week and the sutures a week longer She remained in bed four weeks, and although having some dragging pain on the right side, was entirely free from pain on the left

I heard from her nearly two years after the second operation There had been no recurrence of pain on the left side nor about the umbilicus She had occasionally some dragging uncomfortable sensations in the right loin, but considered herself entirely well, had gained much in weight, and was doing all her own housework

Case 2—Unsuccessful nephrorrhaphy followed by nephrectomy Mrs R, 41 years old was referred to me by Dr E M Frissell of Webster Dec 2, 1891 She had two children aged 18 and 14 years had had one miscarriage thirteen years ago, and a second one, one year ago She was always frail, had had more or less dyspepsia for twenty-five years, and about the time that her dyspepsia began, she had several hysterical seizures which lasted from three to five hours each and made her almost insane For two years she had felt a dragging pain in the right side with severe paroxysms of short duration, excited especially by any sudden movement of the body. She was soon rendered incapable of attending to her own work and was obliged to lie down most of the time. In June, 1890, a diagnosis of movable kidney was made at the Massachusetts General Hospital, and a support applied which afforded only a very temporary relief. Her condition became steadily worse and at the time when she was sent to me she had not been out of the house for many months and could walk but very little, was nervous and hysterical and constantly dependent upon morphin and stimulants. There was upon the right side a movable tumor of renal outline somewhat larger than a normal kidney. It would slip back under the rib, but could be easily brought within reach by firm pressure over the lower part of the thorax and on coming forward superficially against the abdominal wall could be carried down to the umbilicus. Firm pressure elicited the same sickening feeling with pain, nausea and faintness observed in the previous case. On Dec. 5, 1891, I operated through the usual oblique lumbar incision, using six carbolized catgut sutures. I tried to place them so superficially as to include only the capsule and I am sure that I did not obtain a firm hold upon the kidney. She was able to be up in a wheel chair at the end of two weeks and on December 29 returned home. She remained perfectly well and free from pain and from dyspeptic symptoms until the following April, had gained nine pounds in weight and been about among her friends more than for years. In April, however, she began to lose flesh and strength and to suffer so much from pain that she was again confined to the house, and most of the time to her bed or couch. She had severe paroxysms of sharp cutting character, beginning in the right lumbar region and shooting down into the right hip. Morphin and stimulants were again freely used, and she had some trouble with her stomach, though not so much as formerly. During the summer she began to feel the same old lump, and in December, 1892, came to me for a second operation. At that time, the kidney could be felt exactly as before. I operated on December 11, this time through a vertical incision from the tip of the twelfth rib. There were some old adhesions between the kidney and the lumbar muscles, but they were so long as to permit of free mobility in all directions. I followed this time the method of Edebohls, splitting the capsule along the outer border of the kidney and folding back a strip about one fourth of an inch wide on each side. Five silkworm gut sutures were then passed through the deep fascia on the outer side of the wound, through the double layer of the capsule, the renal substance, out through the double layer of the capsule on the posterior surface of the kidney and up through the deep fascia again on the inner side of the wound. These closed the deep wound and brought the inner surface of the capsule and the denuded surface of the kidney firmly against the deep fascia. The superficial wound was then closed and no drainage used.

Convalescence was even easier than from the first operation, although the patient was kept in bed for several weeks, in the hope of favoring stronger adhesions. So fearful was she of dislodging the kidney again, that although free from pain except a dragging sensation in the right side, she could not be persuaded to move about except in her chair, and it was two or three months before she would even walk across the room. She continued very nervous and apprehensive until June, when pains returned again as severe as ever and she felt sure that the kidney was again movable. Severe paroxysms of intense nervousness began to appear more and more frequently with other hysterical manifestations, and she again resorted to morphin and stimulants in still larger quantities. So deplorable had her condition become that I was besought by her friends and by herself to remove the kidney altogether, and in December, 1893, she reëntered the hospital for that purpose. Her general appearance was better than at the time of either of the previous operations. The kidney could be readily felt through the abdominal wall and seemed to be movable, though within a much smaller area than before. It was removed through a vertical incision, without difficulty, the vessels ligatured separately, and as a whole, and the wound closed. Upon exposing the kidney, deep in the wound were found the old buried silkworm gut sutures still intact and there were intimate fibrous adhesions holding it firmly against the transversalis fascia. Its apparent mobility was due simply to the relaxed flabby condition of all the tissues. A sinus persisted for some weeks after the operation, from which were afterward removed the silk ligatures and several of the old silkworm gut sutures. The wound healed immediately afterward and she returned to her home in January, 1894. She has since then remained almost perfectly well, free from all hysterical manifestations, stronger, able to do more work and to be about more among her friends than she had been for years before.

Case 1 is interesting, in the first place, as one of double nephrorrhaphy, of which, as will be seen by the accompanying Table A, I can find but five instances. It is also interesting because of the absence of all those vague and troublesome symptoms which often accompany movable kidney, such as the gastro-intestinal disorders and the manifold symptoms of neurasthenia. The disability was in this case purely the result of pain, and pain referred to regions of the kidneys alone, and apparently dependent entirely upon their mobility. To the absence of these other indefinite and very troublesome symptoms, as well as to the absence of the more commonly recognized causes of movable kidney, such as rapid emaciation, repeated pregnancies, relaxed abdominal walls and ruptured perineum, to the absence of all these is due the very satisfactory and permanent result of the operations. The trouble on the left side seemed clearly the result of overstrain. That on the right could be attributed only to hard work, but whatever the cause, the important feature is, I think, that the symptoms on both sides were purely local, and I am very sure that the more these local symptoms are complicated by, or result from, other general or constitutional conditions, especially disorders of the nervous system, by just so much the greater will be the probability of failure from the operation.

This, it seems to me, was exactly the trouble with the second case. The failure of the first operation was due to a faulty technique. I used plain carbolized catgut for my sutures and tried to place them in the fibrous capsule of the kidney, to avoid as much as possible passing them into the substance of the kidney itself. Chromicized gut would have been better, but even that is decidedly inferior to silk, kangaroo tendon or silkworm gut, and the sutures should be passed directly through the substance of the kidney. Whether splitting and reflecting the capsule as proposed by Edebohls and practiced in the second operation, is necessary or not, I do not know. In a thin subject it is easily done but in a stout one it presents many difficulties, and its added efficiency is at least doubtful. The failure of the second operation is, I think, exceedingly interesting and instructive. Upon reopening the wound one year later, the kidney was found firmly fixed to the muscles of the back in a position but little lower than that which it would normally occupy. The silkworm gut sutures were found after the lapse of the year just where they had been placed relatively to each other, but no longer passing into the renal tissue. I could displace the kidney only so much as I could move the deep muscles and fascia, but so thin had the patient become that I could easily feel it from the front, and could push it up into considerable prominence. Strictly speaking, however, there was no independent mobility of the kidney. Still, after a lapse of several months, all her symptoms had returned, if possible more aggravated than before, and this was as true of the local symptoms referred to the kidney itself as it was of the more general and more serious manifestations, dependent upon a disturbed nervous and mental organization. After the first failure, I think she had come to look upon the kidney as her natural enemy and was encouraged by the advice of friends to believe that its removal was the only

DOUBLE NEPHRORRHAPHY

Case	Authority	Sex	Age	Symptoms and History	Operation	Results
1	Lindner, Ueber die Wanderniere der Frauen, Berlin [illegible] p [illegible]	F		Five years of [illegible] Severe abdominal pain, cephalalgia, irritation of kidneys and [illegible] with much emaciation Both kidneys easily palpated	Simultaneous operation on both sides	Patient up in four weeks same troubles returned a few weeks after operation and patient died one year later of melancholia and insanity
2	T M Rotch Boston Med and Sur Jour [illegible] cxxxi p [illegible]	F		Severe headaches with occasional nausea and vomiting for two years For two years occasional pain relieved by lying down referred to coccyx both inguinal regions and back Occasional palpitation constipation dyspepsia dizziness and frequent micturition	Left kidney sutured Sept [illegible] and right Nov 7 [illegible]	Feb [illegible] Patient still complained of various nervous aches and pains, but the nausea sense of weight in the abdomen and headaches were relieved
3	Tillmanns Deutsch Ztschr f Chir xxxiv Festschr Thiersch Leipzig 1892 p 634	F	[illegible]	Mild case No 3 in table Ne		
4	Edebohls New York Jour of Gyn and Obst, [illegible] iii, 88	F	[illegible]	Suffered for ten years frequent painful micturition occasional complete suppression Right kidney movable 12 cm left 10 cm both normal in shape and size	Simultaneous operation on both sides	The symptoms nervous gastro intestinal, genital vesical and urinary, which had existed so long had almost entirely disappeared after the operation
5	The same	F	[illegible]	Dysmenorrhea pain in left ovarian region general pelvic distress intolerable bearing down sensations no hysteria Right kidney displaced downward [illegible] cm left 13 cm	Simultaneous operation on both sides	Uneventful recovery too early to determine permanent results

NEPHRECTOMY AFTER UNSUCCESSFUL NEPHRORRHAPHY

Case	Authority	Sex	Age	Symptoms and History	Operation	Results
1	Kummel Deutsch Med Woch, 1887 No 4, p [illegible]	F	60	Acute pains for one year, occasioned by movable kidney was much emaciated slept little, had acquired opium habit	Nephrorrhaphy by suture through renal substance—pains returned in one month The kidney still in place and fixed Nephrectomy June 26, 1877	Pains all ceased after four days No subsequent report
2	Agnew Philadelphia Med News, Jan 29 1887	M	32	In 1878 felt something give way while working, since had severe pains in lower region paroxysmal intensified by work Some albuminuria no casts L. Kidney easily felt and moved	Nephrorrhaphy with stitches thro capsule old symptoms returned in less than a year much worse kidney again worse Nephrectomy by lumbar route April 23 188[illegible]	"Remains well up to present time," i e 1887
3	Tillmanns Deutsch Ztschr f Chir xxxiv—Festschr n Thiersch, Leipzig, 1892 p. 634	F	19	Wandering kidney on both sides In bed for twenty five years walking or standing caused severe abdominal pain Had a laparotomy for supposed ovarian tumor then formed, then ventral hernia and later floating kidneys	R Nephrorrhaphy May 10, 1889 L Nephrorrhaphy Sept 11 1889 Six months later left kidney again worse lumbar nephrectomy in May 1890	Remained hysterical and died 2½ years later from intercurrent affection
4	M Juinne Bull et Mem Soc de Chir de Paris 1891, n s xviii p 533.	F	25	Violent painful convulsions and frequent desire to urinate and diminished urine Origin in the lumbar region Convulsions last intermittently three or four days and recurred several times a month, with vomiting and fever	Nephrorrhaphy, for one month no convulsion pains returned and pus in urine nephrectomy three months later kidney firmly fixed and normal	Temperature became normal and pus disappeared No late result
5	L H Dunning Am Jour of Obstetrics, Dec, 1891, p 891			Pain, vomiting Bedridden for four years	Nephrorrhaphy pains and vomiting unrelieved then lumbar nephrectomy	Pain entirely relieved Vomiting persisted several months, then gradually disappeared Now, at end of eight years, in comparatively good health

chance of permanent relief She was continually feeling for it and trying to find it, and when at last she did find it, even though it was not movable, the whole train of symptoms naturally followed The presence of this neurasthenic or hysterical condition is the most important point of contrast between these two cases, and it is just this that, in my opinion, made the difference in the results I must confess that I did the nephrectomy with very great reluctance, and that I felt very skeptical of its result I have, however, been happily disappointed and have been pleased to learn, as I shall hope to show you a little later, that the operation has in other hands succeeded where nephrorrhaphy has failed, and that under such circumstances it has a legitimate place, offering a reasonable prospect of final success In the present case, this relief has continued long enough, I think, to warrant the prediction that until some other local disorder shall destroy her nervous balance it will remain permanent and complete

It has always seemed very strange to me that the literature of movable kidney contained so little reference to the association with it of a strongly neurasthenic habit or temperament Morris, Newman, and the recent systems of surgery hardly mention it Nowhere, so far as I can discover, has there been any satisfactory study of the relations of the movable kidney to its accompanying neuroses Four of the six cases which I have observed have certainly presented two very different groups of symptoms, one group consisting of pain, tenderness with dragging sensations, with sense of weight and fullness in the hypochondrium, all symptoms directly referable to the kidney itself, and a second group made up of loss of flesh and strength, palpitation, various gastric and intestinal disturbances, ovarian and uterine neuralgia, dysmenorrhea, and other evidences of permanent neurasthenia, accompanied in one case by a condition of mental depression amounting at times almost to insanity Whether this second group of symptoms is a cause or a result of movable kidney, I am not able to determine I feel very sure that it is more than a coincidence Of the thirty-one cases reported by Drummond, he says, "twenty-two were exceedingly nervous and might very properly be described as decided neurotics, and it is noteworthy that these were the cases in which the dyspeptic symptoms were most marked So often is a marked nervous habit to be met with in cases of movable kidney with symptoms, that I have been led to ask myself the question, Would the symptoms arise were it not for the neurotic tendency even with a pronounced degree of ectopia" It must, I think, be admitted that in the great majority of cases they would not But that the kidney condition determines the region and distribution of the disturbance, there can no doubt, and further, it would seem that in some cases at least it is the cause of the neurotic temperament" These functional neuroses accompanying movable kidney seem to me to be identical with those so commonly observed in cases of ovarian neuralgia where the ovaries seem perfectly healthy, and also identical with the neuroses so often associated with coccydynia Surgically, they are of the utmost importance in determining the prognosis and treatment Whenever they are absent, as in the first of the cases I have just reported, I think nephrorrhaphy may be undertaken with very positive assurances of success When present, they lessen very much the probability of securing permanent relief In the event of failure, nephrectomy, as is illustrated by our second case, still offers some hope of a favorable result, but even that, like the removal of the ovary and the coccyx is often unsatisfactory

Since the introduction of nephrorrhaphy, nephrectomy for the relief of uncomplicated movable kidney has met with but little favor Suture of the kidney not only is easier and very much safer, being attended by a mortality that is almost *nil*, but it seems to meet more perfectly the indications for surgical interference No one now credits the dictum of Keppler, that a movable kidney is in itself a menace to its possessor's life, and should be immediately removed On the contrary, the prevailing surgical opinion is rather that of Landau and Mr Knowsley Thornton, who regard the "removal of a kidney simply because it floats or is mobile, as quite unjustifiable" In fact, I think most surgeons would go a step further than Mr Thornton, and say that no operation should be undertaken on a healthy kidney simply "because it floats or is mobile" It is only when by its mobility it occasions symptoms that interfere with one's ordinary occupation or habit of living that any operation is indicated Nephrorrhaphy is then certainly the operation of choice, but in the event of its failure, nephrectomy is, I think, not only a justifiable but a reasonable procedure as is illustrated by the second case here reported I have further collected five other cases, as will be seen by the accompanying table, in which the failure of future has been followed by the successful removal of the kidney One of them in which the nervous symptoms were especially prominent is reported as having remained hysterical until the time of her death, two and one-half years later from some intercurrent affection Agnew's case remained well nearly two years after the removal of the kidney, and Dunning's was in comparatively good health eight years after operation, while the remaining two cases were immediately relieved of their symptoms, but were reported too early to give permanent results These cases are too few and the records too meager to enable us to draw any positive conclusions They are more than sufficient, however, I think, to justify us in attempting a radical operation when the simpler alternatives have failed

In calling your attention to this subject by reporting these two cases, I have been actuated by the desire to emphasize more particularly two factors in the consideration of movable kidney, which are, it seems to me of very great importance, and which do not often receive the attention they deserve They are 1, *the frequency with which movable kidney is associated with a marked and very distressing neurotic habit and under these circumstances nephrorrhaphy is often unsuccessful*, and 2, *the possibility of securing permanent relief by nephrectomy when nephrorrhaphy has failed*

APPENDICITIS

Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md May 7-10, 1895

BY JOHN B DEAVER, M D
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From my experience in appendiceal work, and particularly during the past year, I feel that I have a right to make a further contribution upon this much debated subject Notwithstanding the vast amount of literature which has appeared, and the numerous discussions which have occurred upon this subject in the past twelve months, I regret to say that there are still too many skeptics, first as to the prevalence of the affection, and second, as to the importance of the only curative treatment, namely, operation I had hoped that the nomenclature of this subject had been definitely settled and that appendicitis was the accepted term for inflammation in the right iliac fossa, which we now know invariably originates within the appendix, but a recent article by Frederick Treves in the *British Medical Journal* describes appendicitis under the headings, typhlitis and perityphlitis, terms no longer accepted by American surgeons

As I have before remarked, the diagnosis of appendicitis is not a difficult one to make I must confess I have been astounded when attacked by a few prominent clinicians on making the above statement. The history of onset in the great majority of cases of acute appendicitis, as well as in acute attacks supervening upon an already chronically inflamed organ presents a picture, the outlines of which are so striking that if once seen it must be everlasting

The initial pain, the gastric disturbance, the point where the tenderness to touch is most intense, the torpid bowel, all these following closely upon either the ingestion of indigestible substances or the ingestion of digestible substances, if the integrity of the lining membrane of the digestive tract has been disturbed, as by sudden exposure to cold, fright, grief, etc, these symptoms, I say, form the background of such a picture

The rigidity of the abdominal walls of the lower right quadrant of the abdomen, nausea if not vomiting the disposition to flex the thighs upon the abdomen the limited abdominal respiration the increased pulse rate, the elevation of temperature the intense thirst, the pain referred to the back the abdominal distension complete the picture in detail There is now left the finishing touch which is true in both senses of the word that of locating the inflamed organ by palpation While the tenderness early in the attack is diffuse yet the point of greatest tenderness can by careful examination, be most clearly defined over the position held by the appendix

The etiology and pathology of appendicitis being intimately associated I have thought it best to describe them together

From my experience in the past year I have no reason to change the views expressed in former articles regarding the etiology of this affection I still believe that there is a certain proportion of cases of appendicitis in which foreign bodies are an active factor in its production when a catarrhal condition of the mucous membrane already exists and especially when associated with it is the bacterium commune coli Foreign bodies may however remain and cause little or no disturbance until some indiscretion in diet or exposure to cold or dampness excites a catarrhal condition, when their presence adds to the irritation thus produced and prevents drainage of the organ by occluding its lumen They are the important factors which favor ulceration of the walls of the appendix and perforation or even gangrene of the entire organ

Occlusion of the lumen of the appendix may also result from one of the following conditions a very long meso appendix, a shortened meso appendix, a meso appendix due to infiltration, containing an excess of fat, adhesions, thickening of the mucous and sub-mucous coats or displacement of adjacent viscera

All inflammations of the appendix are septic, consequently, drainage is essential for a spontaneous recovery from an attack The mucous membrane of an appendix beyond the point of obstruction undergoes structural changes which render otherwise innocuous materials (bacteria, etc,) actively malignant and thus favor migration

In cases of chronic appendicitis, a catarrhal condition of the mucous membrane of the appendix primarily renders it predisposed to slight irritation and though macroscopically and microscopically the mucous membrane of such an appendix would show but little evidence of disease, this is clinically disproved I have seen cases of recurrent appendicitis where all the symptoms disappeared after the removal of the appendix, which showed but slight disease of the mucous membrane

I recall one case in particular, where the patient had been an invalid for seventeen years The removal of the appendix which was small, and the mucous membrane which showed but slight pathologic changes, was followed by a prompt disappearance of the symptoms This patient is to day perfectly well and leading a comfortable and happy life

Many of the cases of chronic intestinal indigestion of both the catarrhal and the nervous type, also cases of chronic enterocolitis and colitis, I maintain are due to structural changes found in the appendix, which I have removed for the relief of one or more of these various conditions

The appendix is a highly organized structure, as much so as is any portion of the alimentary canal It possesses the same number of coats, has its individual mesentery and is equally as well supplied with blood vessels, nerves and lymphatics as are the intestines The point of essential difference, however, is that it has but one opening and this is the reason that inflammations of this organ are of so destructive a character and hold a place second to no other intra abdominal inflammation

Catarrhal inflammations of the appendix are very common, but heretofore have not been recognized as attacks of appendicitis When the inflammation is more marked there are other factors which enter into the case If the bacillus coli communis is present in a virulent form or is associated with the staphylococcus we have an infective appendicitis which is of the virulent type when this condition is associated with a fecal concretion or other foreign body causing pressure, necrosis occurs and we have perforation In infective appendicitis we frequently find minute points of suppuration in the mucosa, these foci start in the glands which are infected and then suppurate The virulent bacilli can and do migrate through the walls of the inflamed appendix and cause suppuration around the organ without perforation

The termination of an attack of the infective variety of appendicitis depends upon the direction which the bacilli take If they pass into an appendix whose lumen is not encroached upon, the attack may terminate favorably If the migration is through the walls into the right iliac fossa, suppuration about the organ occurs and we have a peri appendiceal abscess, or a general infective peritonitis This is the awful uncertainty, and places upon the physician a terrible responsibility In support of my position, I will simply refer you to the statistics of the early operative treatment and to those of the so called conservative or expectant treatment

This is the view I have held, and when the opportunity has presented itself acted upon, and I have yet to record the first death where the appendix was removed in the early stage of the acute attack

The personal equation in the resistance to septic absorption is a matter of the greatest importance and one which figures conspicuously in appendicitis Two cases, in which there is, as nearly as it is possible to demonstrate pathologically, a parallel condition of affairs, may show very different degrees of infection, one patient will be profoundly septic while the other will show but slight evidences of poisoning This fact must be understood and borne in mind by the physician in attendance upon a case of appendicitis, otherwise he will be less likely to appreciate the responsibility of his position

The symptoms of appendicitis present such a vivid picture clinically that I can not conceive how, ordinarily, they could be misinterpreted The cramp like pain in the epigastric or umbilical region, which ushers in the initial symptoms of this affection, is severe and usually constant, although it may be intermittent, and is associated with nausea, vomiting and extreme restlessness The pain may be referred to these regions for a period ranging from one to twenty four hours, but later is confined to the iliac fossa where it manifests itself in wave-like paroxysms With the advent of general peritonitis the pain becomes diffused The nausea and vomiting usually cease in favorable cases after the pain is referred to the region of the appendix In unfavorable cases it becomes regurgitant and persists until the end

Rigidity of the abdominal walls which in the majority of cases is most marked on the right side, occurs before the pain localizes itself in the right iliac fossa There is usually constipation but occasionally diarrhea Where constipation persists it is due to one of two causes, either an intestinal paresis of septic origin or the use of opium

Tenderness is the most important symptom of appendiceal inflammation Deep palpation over a normal appendix will not elicit tenderness There is only one condition which renders difficult or impossible the palpation of an appendix, viz, marked tympanites Tenderness may also be elicited through the rectum in the male, and the vagina and rectum in the female when the appendix is directed into the pelvis The point of greatest intensity of tenderness is over the inflamed appendix Excruciating tenderness indicates pus, and in some cases is elicited only by vaginal or rectal examination

Temperature and pulse rate in moderately severe cases bear no relation to the amount of disease going on within I have seen cases with abscess and even perforation in which the pulse rate and temperature were normal These are explained by the various pathologic conditions found in the peritoneal cavity in appendicitis A sudden fall of temperature in acute cases should be looked upon with suspicion, as this only too often indicates perforation of the appendix

The ordinary form of appendicitis is readily diagnosed, but I have met with some variations which have been misleading and puzzling, cases in which the pain has been referred to the left side, to the spleen to the bladder and to the testicle

The history of attacks is at times indistinct, one being frequently only able to get a story of a chain of vague symptoms which patients refer to as an attack of cholera morbus Again, I have seen cases in which a persistent colitis or entero-colitis, were the only clews to the real cause of the trouble There is one symptom, however, which is constant and that is tenderness, this, in the majority of cases is accompanied by a palpably enlarged appendix If one palpates the right abdomen of patients who suffer from dyspepsia, entero-colitis, or colitis with or without histories of attacks of appendicitis, the number of tender, enlarged vermiform appendices he discovers will astonish him The following case will illustrate Miss W, age 16, no history of an attack of acute appendicitis, had been suffering for some time from a severe colitis Her appendix was tender and was easily palpable I advised its removal We found the appendix constricted and indurated at its extreme tip, bound by adhesions to the surrounding bowel, and the omentum adherent to the outer wall of the cecum The appendix contained pus I have come to the conclusion, after a varied experience in appendiceal work, of accepting the histories of attacks of cholera morbus as those of acute attacks of appendicitis and have yet to see the first operative case presenting such a history which did not substantiate this belief

The diagnosis of appendicitis can be made early, and when made, should be followed by operation for the removal of the inflamed organ A case of *bona fide* appendicitis should not be allowed to go to the point of suppuration A point upon which all authorities on this much debated question agree is that there is no sign or symptom, class of individuals, age, or time of disease which foretells perforation, gangrene and pus No man can tell how the case may proceed from hour to hour and therefore the only logical conclusion at which one of experience can arrive is immediate early operation

The prognosis depends not only upon the character of the attack and the complications which may supervene, but especially upon whether or not an early operation is done In other words, the earlier the operation is performed the better the prognosis

When the collection of pus is circumscribed and the general peritoneal cavity walled off, the prognosis is generally favorable If the general peritoneal cavity be infected the prognosis is grave, although if operation is at once resorted to there is a possible chance of recovery, while if the infection be late or operation deferred, a fatal termination is invariably the rule When a circumscribed appendiceal abscess ruptures and evacuates its contents into the bowel, recovery from the attack usually follows, while evacuation into the bladder is fatal in about 50 per cent of the cases The age of the patient is a decided factor in the prognosis, as the disease is more fatal in the very young, on account of the slighter powers of resistance

Appendicitis is a surgical affection and should be so treated The first question which arises after the diagnosis has been established is the character of the attack and what will be the probable outcome? It is here that we come up against the stone wall of fact, backed up with logical conclusion based upon experience We can not say positively which case or class of cases will recover from an attack and which will go on to suppuration, gangrene and perforation The question is, Shall we guess, and run the risk at the patient's expense? or shall we accept the only other alternative and remove the organ at the incipiency of its inflammation? The operation has been performed so often by skilled surgeons with a mortality of 1 to 2 per cent and in many instances without a death, that there is absolutely no ground for attacking the procedure upon the score of fatality. Hernia is not a frequent sequence of abdominal section and is not the bugbear it is thought to be by the opponents of the knife We can not accept objections to scientific procedure, upon the score of prejudice or on general principles, but must meet facts with facts

A record of 100 appendisectomies with one death and no hernias speaks for itself The records of McBurney, Richardson, Fowler, Murphy and others stand out like the "handwriting on the wall," to substantiate the scientific wisdom of early operation, and to stamp delay as dangerous and unscientific

Early operation is a conservative and not a radical procedure We are not governed by the same reasons that influence us to perform the radical operation for the cure of a simple hernia, or for the removal of the uterine appendages for a fibroid But we see before us the probable consequences of allowing suppuration, gangrene and perforation to occur in the peritoneal cavity which may or may not be protected by nature's kindly action

The proportion of cases of appendicitis which have one attack, then become perfectly well and are cured of the disease, is so infinitely small compared to those which have repeated attacks with an interval of invalidism, that I do not believe the rare exception should interfere with the rule

One of my recent cases had had three attacks, with the interval filled in with gastro intestinal uneasiness and tenderness over the appendix, increased by the slightest dietary indiscretion He decided he would be operated upon as he considered the risk of another attack far greater than that of operation On the day of operation he remarked that the tenderness was less pronounced than at any time for three months previous

The appendix which lay behind the cecum and colon, first observed a northerly and then a southerly direction, making an acute flexion it was firmly bound down by strong adhesions The omentum was adherent to the base of the organ as well as to the cecum An interesting feature in the case was the presence of a neighboring knuckle of small bowel which was anchored to the base of the appendix by an adhesive band causing an acute flexion This condition would have been capable of producing an attack of acute mechanical intestinal obstruction upon the slightest provocation The appendix was thickened and contained pus It is now four weeks since the operation, and he says he has no dyspeptic trouble and feels the first relief since his initial attack nine months ago

The early operation is, as a rule, a comparatively simple abdominal procedure The operation at the end of an attack or during the interval between attacks is usually more difficult than when done very early in the attack before adhesions are formed After pus has formed, an operation for the removal of the appendix calls for the best judgment and skill, along with experience in this particular line of work One meets with pus which has originated in an appendiceal inflammation, in every conceivable part of the peritoneal cavity, and only too frequently the entire cavity is invaded

The appendix holds a northerly position in so large a percentage of cases that it is common to meet with many cases of acute appendicitis in which the purulent collection is post-cecal or post-cecal and post-colic In this class of cases I invariably remove the appendix With the proper abdominal technique, an important part of which is the disposition of the sterile gauze by which the greater peritoneal cavity is temporarily sealed off, the risk of infecting this membrane is reduced to a minimum To one whose experience in this class of cases has not made him expert, I would strongly urge that having opened the peritoneum in cases of this character, and recognizing the position of the swelling, that it is far safer for him to immediately close the abdominal wound and complete the operation by draining the collection through the loin space This is not only feasible, but at the same time safer than to take chances on exposing the peritoneum to contact with pus, of the character which is generated in connection with appendicitis In those cases where the abscess points anteriorly, one of two procedures is to be followed out, evacuation without any attempt to remove the appendix, or, first carrying an incision through the abdominal walls to the inner side of the collection in this wise opening the general peritoneal cavity, which is to be protected with sterile gauze, to be followed by a second incision down over the most prominent part of the swelling The pus is evacuated, the cavity then washed out thoroughly, and the appendix removed This latter plan of operation should only be practiced by a surgeon who is an adept in this line of work

When the general peritoneal cavity has been protected in the manner referred to, the appendix removed and the wound cleansed, the first packing of gauze is to be withdrawn and replaced by a fresh piece which is allowed to remain *in situ* for two or three days, the time depending upon circumstances By a strict observance of this step in the technique, the peritoneum can be left permanently sealed off This anticipates nature's means of closing off the abscess cavity by adhesive inflammation When the permanent gauze packing has been removed, the wound is closed by sutures introduced at the time of the operation

I do not consider the evacuation of an appendiceal abscess without removal of the appendix in any way curative On the contrary, experience has taught me that these cases are equally liable to recurrent attacks I have operated for removal of the appendix upon too many cases, with such a history, to regard the simple evacuation of the pus other than merely palliative Cases in which the abscess has ruptured into the colon and the rectum, suffer from subsequent attacks and for these during the quiescent period I have removed the appendix In only a small percentage of the appendices removed under these circumstances do we find evidence of a previous perforation From our knowledge of the pathology of this subject we know that perforation is not necessary for pus formation

I take this opportunity of adding a remonstrance against the median incision in the operation of appendicitis The number of cases are limited where this route offers any advantage In the majority of cases, therefore, and from this we must reason, it is contraindicated, first, on anatomic grounds, second, on the ground that the peritoneal cavity can not be so well protected against infection Granting that what I have said is true, the median operation is unsurgical A knowledge of the topographical relations of the appendix, must impress one's mind with the fallacy of the median operation

In suppurative cases it is impossible to open and drain an abscess in the right iliac fossa through a median incision, no matter how large, without infecting the peritoneal cavity A large incision is always to be avoided in abdominal work Where the appendix lies to the outer side of the cecum or behind the cecum or colon the difficulties of this route would be increased To gain access to the retro colic space by way of the median incision would probably call for division of the internal layer of the ascending meso colon, always to be avoided as it is preferable to go through the outer layer of the meso colon on account of the relation the blood vessels hold to the former

The two incisions to be considered are through or immediately to the inner side of the linea semilunaris (not cutting the rectus but pushing it inward), or through the abdominal walls after the manner proposed by McBurney

The McBurney operation which offers a better safeguard against ventral hernia, is especially adapted to chronic cases In favor of this operation is the direction of the deep incisions which do not entail cutting the nerves of the abdominal walls Some of the nervous phenomena which have been said to follow the operation of removal of the appendix through the semilunar line, I believe have been due to the section of the nerves which must follow opening the abdomen by this route With McBurney, I would not recommend it to one who has not had a considerable experience in appendiceal work, as it is more difficult to perform than is the operation through the semilunar line In either operation the incision should be small In the McBurney operation the incision through the internal oblique, the transversalis muscle, the transversalis fascia and the peritoneum is of necessity small Ordinarily, in cases of chronic appendicitis, the incision in the peritoneum need not be more than an inch in length, just sufficient to admit the index finger to pick up the cecum, the landmark in finding the appendix

The medical clinician carefully views and studies the exterior of the abdomen, and upon the information thus gathered bases his conclusions as to what may be going on within The surgeon sees the process and, if he has had a large experience, sees so much of the destructive possibilities of the disease that he naturally comes to the conclusion that an inflamed appendix is better in the laboratory

THORACIC TROUBLES FROM A SURGICAL STANDPOINT

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md May 7 10 1895

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In this notice of some of the phases of thoracic surgery there has been nothing of an exhaustive nature undertaken, but only an attempt to bring to the attention of surgeons the great landmarks which should prompt to further investigations in this very important branch of surgery While many have explored every nook and corner of the abdomen, and have brought forth rich fruits of their labors, comparatively few have turned their attention to the contents of the chest

It is true, that a few individuals have devoted their energies zealously and successfully to the investigation of the surgical disorders of the chest, but the data for studying the results of traumatism or diseases of this part of the organization are scattered throughout current literature, so as to render it difficult to arrive at satisfactory conclusions With a firm conviction that these disjecta membra may be collected and systematized in a manner to prove instructive and profitable to the medical profession, this contribution is now presented

There are such conflicting views in regard to the various practical measures which have been adopted in thoracic troubles, that any one who seeks for authority in the treatment of the injuries to the walls of the chest and to the viscera within, or for the diseases of the thoracic cavity, is involved in doubt and uncertainty

The more extended such investigation may be, the greater is the confusion from direct antagonism in the practice of those whose names are prominent in the department, and there is a pressing demand for methodic rules in the management of this class of cases

No greater boon could be conferred upon the profession than a thorough analysis of all the details available in connection with the pathology and treatment of surgical disorders of the chest, and a work which may afford a rational and comprehensive grouping of the therapeutic agencies indicated in the different troubles of the thorax ought to prove a most acceptable offering to the surgeon

The conical space within the chest, having its apex upward, is occupied on each side by the lungs, and between them lies the heart with its investing pericardium and the arch of the aorta with the descending aorta The pleural serous covering of the viscera is reflected over the inner walls of the thorax and the two membranes being approximated form an antero posterior partition constituting the mediastinum The different spaces included between the folds of the pleura are designated as the anterior, posterior, middle and superior mediastina, and play a prominent part in the role of thoracic troubles, amenable to surgery

In different divisions of the mediastinum, we find the trunk of the pulmonary artery, the ascending vena cava, the innominate veins, the phrenic nerves, the vagus nerve, the esophagus, the thoracic duct, the bronchial lymphatic glands, the cardiac lymphatic glands and the posterior mediastinal gland, with other highly organized structures This fruitful field for investigation has only recently awakened the interest of original workers and it is expected that it will be explored more fully in future

If a patient is so unfortunate as to suffer from a surgical disorder, he does not always require the use of the knife, and I appeal to my intelligent colleagues to disabuse the minds of people as to surgeons being mere operators

It may be that the critical reader shall expect some explanation of the term surgical disorders, employed for generalization of chest troubles All departures from the healthy or normal condition of the tissues, involving any material modification of structure, either in size or density, may be included under the designation of surgical disorders As has been intimated already, this does not imply a necessity for the employment of the knife or any other surgical instrument, but may be appropriately submitted to medication as a part of the surgical treatment

In illustration of the transition of cases from the domain of medicine to that of surgery, an instructive and interesting report of Christian Simpson, giving four cases in which he had successfully used a new method of bleeding in pulmonary congestion, with a trocar, may be presented This is an extension of Harley's method of performing hepatic phlebotomy, which was laid before the profession in 1886 There is, however, an improvement upon that process, which meets the sanction of Harley After the withdrawal of twelve ounces of blood from the lung, the canula was kept in position with the fingers over the end to allow of a clot forming, and then it was slowly withdrawn The patients were immediately relieved A modification in the mode of procedure is proposed by Harley that makes the plugging of the wound by the coagulation more secure and effective, while it obviates its detachment His proposal is that the trocar being thrust some distance into the tissues of the organ from which it is desired to extract blood, before placing the point of the finger on the mouth of the canula with the view of arresting the blood flow, it should be slightly withdrawn—say, about half an inch or more—in order to leave an empty passage wherein a sufficiently large blood clot may form and fill the channel In this case the surrounding tissues of the organ will, in contracting upon the clot, hold it so firmly by their own resilience that on the withdrawal of the canula it will break off from the end of the much larger mass, which remains as an effective plug in the wound This mode of relief in sanguineous engorgement of the lung is worthy of further trial

There seem to be very few points definitely settled in regard to the appliances specially adapted to the surgical disorders of the chest

There is a marked discrepancy in the views of different observers touching the efficacy of aspiration simply, or the continued drainage aspiration upon the siphon principle in purulent pleurisy

The discussion has been kept up in regard to medicated injections into the pleural cavity after operations for the purpose of correcting septic processes, and as to the employment of irrigation for the entire removal of purulent collections from the thorax The apprehension which heretofore existed in respect to the entrance of air into the chest, upon the withdrawal of a purulent collection has undergone some change from further experience as to its effects and less concern is manifested as to it in making single or double incisions for the purpose of drainage

The difficulty of locating foreign bodies in the bronchial tubes, either by exploration through the trachea, or by physical signs from without through auscultation and percussion, has heretofore proved a serious barrier to accurate diagnosis of the location of such bodies, but the accidents involving the bronchi from the entrance of solid matters into the air passages have generally led to operative measures for their removal There has, however, existed considerable skepticism as to the propriety of undertaking any operation for the removal of foreign bodies from the bronchial ramifications, and Kocher consigns operative measures in those cases to the domain of experiment A few fortunate results have been reported from time to time in the extraction of articles of different forms from the bronchi, affording encouragement to further diligence in this department of exploratory work

There has been notable progress latterly, in the management of abscess of the lung and gangrene of the parenchymatous structure of the lung Resections of a greater or less portion of the pulmonary tissue have clearly demonstrated the fact that thorough decarbonization and oxygenation of the blood may be effected by one lung

The preparatory treatment of a case for an operation, and the subsequent management, often demand a resort to the use of medicinal agents by the surgeon, and the old distinction of external and internal treatment belongs to an exploded régime It sometimes occurs that a surgical case escapes recognition by the attending physician until it has reached a point that does not any longer admit of relief by an operation, though clearly indicated at an earlier period

Again, there are instances in which the efforts of nature may be assisted so as to overcome complications, by means which are not regarded as strictly surgical, yet all such resources pertain to the surgeon He should avail himself of all agencies calculated to relieve his patient without an operation, and it is more creditable to heal a diseased part by conservative measures than to mutilate or excise an organ We should not, therefore, ignore therapeutics in surgical treatment

All concur in removing large accumulations of fluid after various modes of internal treatment have failed to give relief, yet the conditions for this procedure, in the view of many having ample experience, indicate an apprehension of consequences which may be averted by energetic measures of treatment by medication at the outset

The development of pneumo thorax, either spontaneously or from traumatism, has been met by two distinct processes, one being by aspiration of the chest, so as to take away the superfluous air, and the other by the introduction of an innocent solution of boric acid or chlorid of sodium by a canula, while another alongside of it allows the air to escape from the thoracic cavity Thus the space previously occupied with air will be filled with the fluid to be removed by siphonage, or which in due course of time is absorbed Of course, perforations of the lung will be reduced in size by the partial collapse from the outside pressure of the fluid

The mode of treating wounds of the parietes of the chest has given rise to much discussion While the weight of authority is favorable to closing incised or gunshot wounds of the walls of the thorax, there are advocates for laying open freely all the parietal structures in traumatic injuries of the chest walls and lungs which are accompanied with internal hemorrhage

It would appear from the favorable view taken by some surgeons in regard to the practice of laying open the chest, in cases of considerable hemorrhage into the pleural cavity, that this procedure was the recognized treatment On the contrary, this practice is in opposition to the best established principles which govern the treatment of penetrating wounds of the thorax The course adopted generally by those surgeons having the largest experience in the treatment of thoracic wounds has been to allow of the escape of all the blood which may flow out of the wound when placed in a dependent position, and afterward to close the opening by suture so as to shut off the pleural cavity from the external air

It is recognized that all penetrating wounds of the thorax may be closed hermetically, by suture or otherwise, after allowing the discharge of fluid blood from the opening It is also allowed by the best authority, that of experience, that foreign bodies lodged in the bronchi may be reached through an incision of the trachea at the lowest available point Experiments for reaching the bronchi through the chest wall afford little encouragement for operation upon the human subject Medication as a preventive and curative agency in pleuritic effusion is worthy of trial before having recourse to aspiration Aspiration is indicated where there are large serous accumulations in the chest and likewise in pneumothorax but can not be relied upon for the relief of purulent collections Partial resection of ribs is attended with better results in some cases of empyema than the complete removal of the segments of several ribs The excision of a small portion of one rib with the introduction of drainage tubes has been generally attended with good results,

A few years ago it was thought that a most desirable consummation had been reached by Estlander's operation in empyema, but to-day serious misgivings are entertained by the conservative surgeons in America and in Europe as to its applicability, except in extremely rebellious fistulous openings of the thorax

Quenu recommends for opening the posterior mediastinum (*University Medical Magazine* for July, 1892), to make a vertical incision 15 centimeters long over the angles of the ribs, between the spinal border of the scapula and the vertebral column about four fingers breadth from the spine, the middle of the incision corresponding to the spine of the scapula By retracting the inferior border of the trapezium upward and inward, three ribs may be divided and resected for 2 centimeters and this permits the hand to penetrate by stripping off the pleura This opening in the thoracic wall extends from the inferior border of the second rib to the superior border of the sixth, and drawing back the ribs enables one to explore the hilum of the lung, the aorta and that portion of the esophagus which extends from the root of the bronchus to the diaphragm If, instead of stripping off the pleura, it is incised, the upper lobe of the lung and even the summit of the thoracic cavity are easily accessible and more readily than by resection of the ribs in front below the clavicle It is asserted that this opens the way for relief in abscesses and other affections of the mediastinum

A point of much importance in connection with the restoration of the respiratory function to the disabled lung without risk of injury to its structure, in aspiration and valve drainage, when no air enters to replace the fluid, is the gradual and partial evacuation of the purulent contents An enfeebled and contracted lung can not expand suddenly to fill up the space occupied by an extensive collection of pus, and to avoid an injury to its tissues the discharge should not be completed at one time but in two or more evacuations Levasheff has recommended the withdrawal of a certain amount of the intra-pleural exudation and replacing it at once with an equal quantity of a solution of chlorid of sodium He says that after this operation has been repeated from two to six times, the pleural cavity would contain nothing but an indifferent salt solution which would be rapidly absorbed While those with a limited sphere of work in the graver classes of chest trouble have claimed satisfactory results in treating empyema by thorough drainage without the resection of ribs, others have found that after these measures have failed, a resort to extensive removal of several ribs has succeeded, when the lung has become materially diminished in size or totally unfitted for the function of respiration by contraction and adhesion, it is evident that the walls of the thorax on the corresponding side should be proportionately reduced, and the only practicable mode of effecting this is to excise portions of the ribs

Yet the growing conviction of those who have had the largest field of observation seems to be adverse to Estlander's operation except in extreme cases

Quenu, at the suggestion of Estlander, first executed section of the ribs without resecting them, while Delorme improved upon this idea of a trap door to reach the contents of the chest, and Jennings, Richelot, Morreau and others have done it

The following thoraco plastic operation done by Mr Subbotin, a Russian surgeon, some five years ago, offers many advantages over other modes of lessening the space around the collapsed lung, a segment from two to three inches long is first resected from the seventh rib and the pleural cavity is opened and washed out This opening is then plugged with gauze Then a vertical incision about two inches long is made along the outer border of the pectoralis major muscle Through this the sixth, fifth and fourth ribs are exposed without being denuded of periosteum, and from each of these a little wedge is removed by means of Liston's bone scissors so that the rib is made movable A similar vertical incision is then made in the posterior axillary line, serving for the exposure and division of the same ribs in this situation. These two incisions not opening into the pleural cavity are sutured without drainage The portion of ribs lying between the two points of section are thus enabled to sink in and when healing has taken place they protect the thoracic cavity and support the vertebral column

While there may be cases of pulmonary abscess with adhesion, relieved by simple incision and washing out the cavity, the procedure of Runeburg in excising a large piece of rib directly over the abscess and making a free opening directly into the pleural sac, with a smaller opening into the pulmonary tissue, is often indicated

It is held that abscess of the lung presents signs and symptoms which admit of a positive diagnosis and that operation is often demanded Perier, of Paris, reports the case of a man 58 years old, in which an incision was made in the left second intercostal space and the lung tissue, covered by pleura, was seized with a pair of forceps The pleura and the lung were incised and about two fluid ounces of pus were discharged, when two long drainage tubes were secured in the cavity which had been washed with camphorated naphthol The operation gave an entirely satisfactory result

A case of pulmonary gangrene is reported by Delageniere, of Mans, in which resection of lung gave a favorable result He infers from this and nineteen other recorded cases of pneumotomy for pulmonary gangrene, that the operation has hitherto failed to give the desired result, because surgeons have been content merely to drain the gangrenous focus instead of extirpating it as completely as possible

It seems to be demonstrated beyond a doubt that interference in all cases of abscess of the lungs which have not opened into the bronchi is attended with success, and that gangrene of the lung is completely amenable to surgical interference

The operation of thoracotomy for abscess and gangrene of the lung should be accompanied with antiseptic applications and gauze tamponage The great importance attached to the operation of pneumonectomy is demonstrated by the extensive notice in medical journals in different countries, of the excision of the apex of lung for tubercular disease in March, 1892, by Tuffier The first pneumonectomy ever reported was performed by Milton Anthony, of Augusta, Ga , in March, 1821, for an injury inflicted originally by a fall from a horse A rib was fractured, empyema resulted, and four years afterward Anthony found the lung tissue in a disorganized condition, when he removed portions of the fifth and sixth ribs and detached all the diseased parts of the lung with his fingers

A personal examination of twelve dead subjects by

Eugene Rochard, of Paris, for the determination of the average trace of the interlobular fissures of the lungs will doubtless be of service in surgical treatment of abscess and gangrene of the lung by transcostal openings This is ascertained to occupy a zone containing the fifth and sixth ribs which are the ones therefore to be taken out by the surgeon The fifth intercostal space in front and on the side is the one most commonly in communication with the oblique fissure It will be observed that this corresponds very nearly to the free spot of Marshall which is near the attachment of the costal cartilage of the fifth rib which has been indicated as the most favorable point for entering the thoracic cavity

Two cases are described by J H Cox one being aspirated with good effect and the other from neglect of this procedure, terminated in pointing and spontaneous discharge through the chest wall about the seventh interspace There was an average discharge of one quart a day for eight months of thick creamy pus, but in a year afterward this had entirely ceased This case affords an illustration of the unaided power of nature

Those who have kept abreast of the advances in surgical resources for chest troubles will fully appreciate the aggressive work in this department But, unfortunately, there are comparatively few of the medical profession who have taken the trouble to ascertain the facts in regard to the various measures which have been adopted in wounds of the thoracic walls, or in the modification of the pleural contents from diseases The aggressive spirit manifested by the operative measures of those who have been reaching out for relief in treating the disorders of the chest has been checked to some extent by the difficulties met with in some departments of original work

There has been exhibited also by a few prominent investigators, a tendency to masterly inactivity in certain fields of exploration, which is now held to be conservative surgery But a retrospect of the result indicates decided advancement

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A NOTE ON THE ADVANCE IN THE SURGICAL CURE OF HERNIA

Read in the Section on Surgery and Anatomy at the Forty sixth
Annual Meeting of the American Medical Association
at Baltimore Md May 7-10 1895

BY W B DEGARMO, M D

PROFESSOR OF SPECIAL SURGERY (HERNIA) IN THE NEW YORK POST
GRADUATE HOSPITAL AND MEDICAL SCHOOL
NEW YORK

In order to bring into marked contrast the operations now being extensively done for the cure of hernia, with those of the past which have failed, we must devote a few moments to the review of the latter

It would be a waste of time to go back farther than the past twenty years, and it would be impossible to even name *all* of the various procedures that have been advocated during this period

In 1876, Czerny gave to the profession the operation bearing his name, which, with various modifications, and under the names of their authors held the field for ten years The neck of the sac at the external ring was tied off, but its removal was seldom attempted The pillars of the external ring were then brought together as tightly as could be done without constricting the cord The suture material was usually catgut In 1886, the MacEwen operation spread rapidly over the surgical world MacEwen dissected out the hernial sac, folding it upon itself into a bunch or "boss" which, after being pushed up through the canal, was stitched to the abdominal wall at the internal ring, where it was expected to act as a barrier to the re descent of the hernia In certain very favorable cases this hope was realized but in a large percentage of the very class of cases which were in the greatest need of surgical aid nothing but disappointment was in store for the surgeon and his patient

Then came the method bearing the name of our eminent countryman, McBurney, which rapidly took the lead of all others in this country This operation, while it did not prove a success as regards permanence of cure, was a long step in advance, in that it opened the canal to the nternal ring and removed all foreign substances The error in its technique was in closing the wound by cicatricial tissue which did not prove stable in character

Next in line and in importance came the almost simultaneous publications of Halsted and Bassini, in 1890, of methods in many respects similar, but with the evidence in favor of Bassini in that he had been using his operation since 1884, and was able with his first publication to give a report of over two hundred cases Not only was this a larger number of cases than the author of any previous operation had ever reported, but the results as presented were such as had never been secured by any other method and his death rate so light as to remove it from the list of dangerous operations

This operation has now been under trial in this country for the past four years, with results fully equalling those presented by its author, and, personally, I can say far in excess of my most sanguine expectations I had for some time used the operation of Barker, of London, with fairly good results, but have now not only abandoned it, but have become an enthusiastic advocate of the method of Bassini

The operation needs little description at this late date Its details are within the reach of all, and quite familiar to most of my hearers The canal is, in every instance, opened to the internal ring The sac is separated from the cord, ligated, and cut off flush with the peritoneal surface The cord is elevated and the original canal for its transmission obliterated The divided structures are brought into apposition and held by a suture material which is not quickly absorbed, and which does not act as an irritant to adjacent tissues While Bassini uses silk for this purpose, most operators in this country are using kangaroo tendon, and are quite willing to confess their obligations to our former President, Dr Marcy, for this valuable material

Without further detail, let us consider *why* this operation, and Halsted's, as well, is liable to cure where former methods have failed The secret, if there be any, is soon discovered by those who adopt it, and it is this—that the canal is cleared of all foreign substance—then the repairs begin at the internal ring, and the structures are restored to as nearly a normal condition as is possible

In my operations I have found in the canal in various cases, since doing the Bassini operation, the following substances which, if they had not been removed, would have furnished strong predisposing causes for the recurrence of the hernia

1 Tough and thickened sacs, a persistent tube with serous lining

2 Good sized bunches of soft fatty tissue connected with the cord

3 Lipomatous growths—extra peritoneal.

4 Enlarged veins connected with cord

5 Masses of adherent omentum inside of sac and in vicinity of internal ring

In former methods none of these complications were found, but as I have had opportunity to demonstrate upon some of my own patients, they have been the cause of recurrence The opening of the canal throughout its entire length has therefore been, it is believed, the most important advance in the surgical cure of these cases

Twenty years ago to remove a portion of the omentum was deemed a hazardous undertaking and for this reason, large and hypertrophied masses were returned to the abdominal cavity These have not infrequently acted as a foreign body producing peritonitis If the patient was fortunate, and escaped this accident the hardened plug of fat remained at or near the internal ring, ready to act as a wedge for re dilating the canal Later, several eminent operators were unfortunate enough to have sepsis or secondary hemorrhage following its removal At present, this is all changed, and the speaker has now operated upon forty-five cases, in patients of all ages, from 13 to 70 years, where pieces of omentum of various sizes have been removed, and without an accident of any kind There have been enormous masses, requiring the ligation of numerous large vessels in some instances Formerly, operators were in the habit of surrounding large masses of this tissue by a single ligature, and that usually of catgut, cutting it off and dropping the stump back into the abdomen Under pressure the fatty tissue was rapidly absorbed, the ligature slipped off and hemorrhage occurred I regret to say that this method is still followed by some surgeons, to the very great risk of their patients In a recent report of these cases before the Surgical Section of the New York Academy of Medicine, which will be published shortly in the *Annals of Surgery* (June 2, 1895, p 658) I have demonstrated a method which seems to insure the greatest amount of safety This is to use silk as the ligature, to tie every vessel that is large enough to be seen, without including any fat I have applied over twenty silk ligatures to a single omentum I have used silk in all of my cases, and have seen no bad effects from leaving it in the cavity of the abdomen

The method of tying off omentum, which is suggested, has also another advantage When the omentum returns to the abdomen its edge is free to spread out naturally, instead of being held in a mass in the vicinity of the canal

I regret to see that two of our countrymen have recently advocated operations, each different in character, where attempts are made to utilize the hernial sac, to fortify the parts against a return of the hernia The word regret, is used because I am convinced that the sooner we recognize the hernial sac as a foreign body, the sooner will we come to a definite understanding as to just how much we can promise our patients who suffer from hernia It is surely a step backward

In closing, we can put the facts of our advanced position in the surgical cure of hernia in a few brief sentences

1 Asepsis has so far removed the dangers that we are justified in doing a truly "radical" operation

2 Any method that fails to remove all abnormal tissue, or that uses suture material quickly absorbed, *invites* failure

3 Mortality has been reduced from 8 per cent to a small fraction of 1 per cent

4 The time of confinement to bed has been reduced from three or more weeks to eight or ten days.

We can not at this time speak with absolute certainty, but we have the best reasons in the world to believe that the number of permanent cures have been advanced from 40 or 50 per cent to at least 90 per cent

REPORTS ON TYPHOID FEVER CONTINUED.

NO VIII

Read before the Ohio State Medical Society, Columbus, Ohio
May 17 1895

BY JOHN ELIOT WOODBRIDGE, M D

YOUNGSTOWN OHIO

A few days since I overheard a physician say. "There is no physician in the world so learned and possessed of such perfect integrity as to have been able to convince me by any statement that the uniform results I have seen Dr Woodbridge secure in the treatment of typhoid fever were possible"

When asked by his interlocutor what he regarded as the strongest evidence of the truth of declaration "that typhoid fever can be aborted," he answered "Seeing it done After that, the charts and reports of the cases of other physicians who have treated typhoid fever by Dr Woodbridge's method and thus have succeeded in saving the life of every patient and greatly shortening the duration of the disease" His remarks prompted me to amend the report which I had prepared, of cases of typhoid fever which I had treated during the past year, by embodying in it some accounts of the failures and successes of other physicians who have essayed the abortive treatment of the disease, relying on the directions which I had given in papers (written only to prove that the disease could be aborted), on hastily written letters, on instructions given orally or on bedside consultations Many of them have shown their enthusiasm over the results of their trials and tests of this method of treatment by sending me clinical charts of the cases, and gratefully acknowledging their indebtedness to me for their marvelous success, a most laudable example of true courage and heroism, to thus report results (the very possibility of which had been so strenuously denied) which it is devoutly to be hoped may be largely followed

As the object of this paper is to place the Ohio State Medical Society in a position to reach a just conclusion of the veracity of the affirmation "that typhoid fever can be aborted," I shall draw from all these sources Many of the original charts (copies of which I hand you) and the letters from which extracts are made are here for your inspection

Those of you who were present at the last meeting of this society, when I read my paper on "Typhoid Fever," will remember that a member arose in his place and said "Being from Dr Woodbridge's town and society, I wish to say that we have had several 'fights' on this subject, and we have been watching his cases for several years to see if he could make his pledges good but so far we have been unable to discover that he has made any failures or had a death from typhoid fever " And we intend to continue to watch him in the future and if he have a death we will report it The fact that no such publication has been made, may be accepted as conclusive testimony that for thirteen years I have had no death from the disease and have aborted every case of typhoid fever which has come under my care at a reasonably early stage of the disease

During the past year I have treated alone or in consultation 58 cases of typhoid fever, during the same period, there have been treated by 117 other physicians, acting under my advice by consultation at the bedside, in conversations in which I have given very complete and precise counsels in regard to the guidance of the patient throughout the illness—more than eight hundred cases

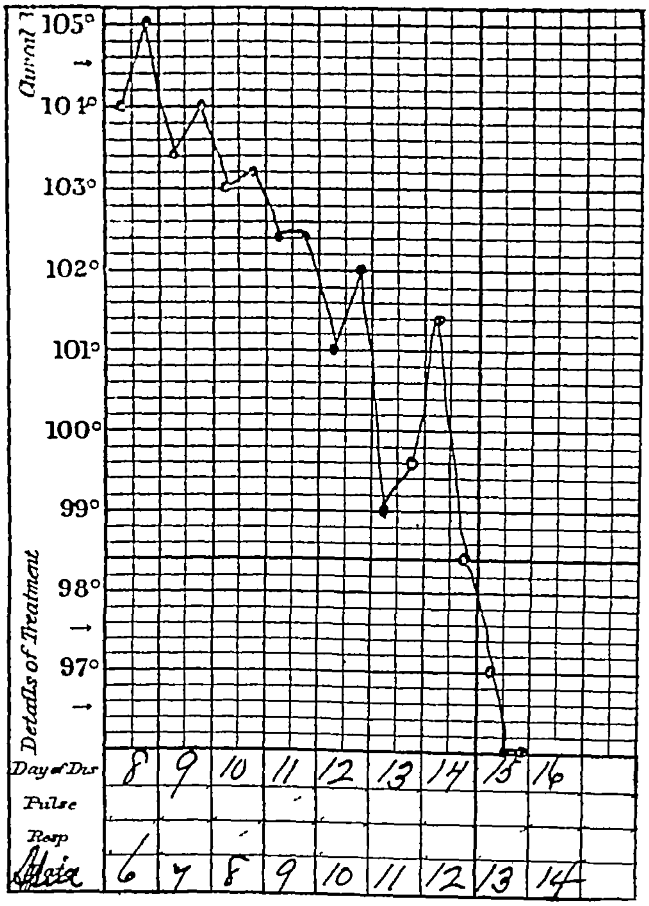
I have seen in consultation during the past twelve months two fatal cases [1]

Case 1—Mr H C O of Sewickley Pa This patient had been feeling sick and miserable and under the impression that he had la grippe had been taking quinin for several days Yielding to the inevitable he finally went to bed and sent for his physician who found that he had pneumonia Later, he had an alarming hemorrhage of the lungs No pathognomonic symptoms of typhoid fever were observed until the night of December 1 during which he had numerous profuse intestinal hemorrhages I was called the next day and found him in a condition bordering on collapse, bleeding from both the lungs and bowels, and he died before the hemorrhages could be arrested

The only other fatal case which I have seen in consultation, occurred in the practice of Dr M V Cunningham, whose experience in the Cook County, Ill, Hospital and at the Emergency Hospital during the World's Columbian Exposition, had served to render him an unusually accurate diagnostician, and taught him to appreciate the value of antiseptic medicine Conservative to a degree—educated to believe that there was no power in medicine to abort typhoid fever—he had watched my cases with the eye of an unfriendly critic, until forced by the logic of my repeated successes, he called me in consultation several times, and consequently was able to produce such brilliant results in a number of instances that I had the most implicit confidence in his ability to treat typhoid fever in a perfectly scientific manner

Case 2—James K, aged 24 years (See chart marked "Dr Cunningham, No 3" This patient was very sick on March 13 On April 1 he sent for a physician, who (according to the statements of the family) made a diagnosis of la grippe and called again the next day The patient growing worse, Dr Cunningham, who a few weeks earlier had treated a small niece of the patient through a very severe attack of typhoid fever by the method I had advised, with unusual success, (see chart marked "Dr Cunningham Case No 1, Ella G") was called on April 6, and he called me in consultation on April 7 I found that the patient had been so sick nine days before I saw him as to lead to the obvious conclusion that he had been sick even longer, a conclusion fully justified by his condition, his temperature having been the previous day 105 degrees, his bowels excessively tender and tympanitic, nervous symptoms exceedingly bad, his tongue very dry and brown also tremulous He had persistent hiccough and was delirious The next morning Dr Cunningham came to my office to say his patient was so wildly delirious that his father who was taking care of him was unable to give him medicine and could with difficulty keep him in bed, and consequently wished to send him to the hospital—a desire which met my heartiest concurrence This, unfortunately, was abandoned on account of expense

I did not hear from the patient again till April 10, when Dr Cunningham invited me to see him remarking in a pleased way "I would like you to visit him once more before he is well, and you must hurry or you will be too late, for his temperature was 101 this morning, and at the rate it is dropping it will be normal in a day or two" Visiting him about 10 A M we found his temperature 100 6-10 degrees, his tongue moist and less coated, his head clear, his abdomen quite flat and entirely free from tenderness, tympanitis very slight, nervous symptoms greatly improved, and sleeping naturally He had taken no antipyretics or stimulants His condition having improved so rapidly since my last visit, I told the Doctor that I believed his patient would be well in less than ten days, and according to reports, he continued to improve till the following evening when his symptoms were all better and his temperature was 99 6 10 Up to this time the disease had run the usual course expected under antiseptic treatment, and, save that it had been instituted too late to prevent necrosis and ulceration of Peyer's glands which needs must have time to heal by granulation, the patient was nearly well



Dr Cunningham s case James K 24 years date of admission April 6, 1895

Consequently I was greatly surprised, when Dr Cunningham telephoned me the next day that the patient had had two convulsions during the early morning and was very restless, delirious and seemed to be suffering great pain, apparently abdominal, as indicated by the manner in which he rubbed and tugged at this region

Examination revealed a doughy mass, filling up the abdominal cavity, most solid on the right side He continued to have convulsions, his mouth and tongue became dry and parched, his temperature became subnormal, he grew more restless, his delirium became more profound, and he died of shock, two days after the accident

The autopsy revealed an intussusception, the obvious cause of death by shock to the nervous system, already exhausted by the long and exceedingly severe delirium and under great strain on account of the septic condition due to the enormous pyogenic surface, the whole of the small intestine being inflamed, and all of the agminated glands of Peyer, in the more than six feet of intestine examined—ulcerated The stomach and intestine above the intussusception were full and distended—below it, empty and collapsed

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[1] Since this paper was written, a third case, which I saw only once on the twenty-ninth day of the disease died

This case presents the strongest possible confirmation of the correctness of my diagnoses—because there is not, among all the cases I have reported as typhoid fever, a single case which offers fewer pathognomonic symptoms of the disease than this one It positively confirms my declaration that "typhoid fever can be aborted," for severe as it was, and despite the fact that treatment was so long deferred that necrosis of Peyer's gland was unavoidable, it yet pursued the ordinary course toward recovery, and before the unfortunate accident occurred which caused the death he was practically cured.

It presents the most convincing and irrefutable evidence of the validity of my assumptions as a whole, and it seems to me that it should overwhelm with shame and confusion the arrogant and impudent critics who, forgetful of my nineteen years of clinical experience, with a method of treatment to which they have not given the slightest attention, presume to say that because the clinical chart does not present the so-called typical "typhoid fever curve'—*ipso facto*—it ceases to be a typhoid fever chart

If any one of the gentlemen are present who in former years have criticized my charts (and in doing so have positively asserted that a chart showing a steplike decline in the temperature, which touches normal in eight or ten days could not be one of a case of typhoid fever) will scrutinize well the chart marked "Dr Cunningham's Case No 3, James K," and examine also that book of charts—in it he will find that there are not three charts which depart further from the so-called typical "typhoid fever curve than the thermic line," on the chart of this man, whose small intestine presented the most extensive series of ulcerated Peyer's glands that I have ever seen

Had the physician who was called to attend this man on April 1, made a correct diagnosis or, failing to do so, had he called in consultation a physician who, if unable to make a positive diagnosis, would at least have given the patient the benefit of the doubt, and immediately instituted proper antiseptic treatment, the misfortune of an intussusception may still have befallen the patient, and he may have died, but he would have been spared those days of burning fever, those sleepless nights of wild delirium, the necrosis of Peyer's glands and their consequent dangers

I have known all these years that these were the clinical charts of cases of true typhoid fever, known that some of them were charts of cases of the disease in which necrosis and even ulceration of Peyer's glands had already supervened, and I have also been aware that there were among them the charts of patients who, but for the treatment I had advised, would have been sleeping beneath the sod

In nearly every medical society before which I have presented dissertations on typhoid fever, certain members have wisely delivered themselves of one or more of the following sage citations, either literally or with a very slight re-arrangement of words as, for instance "We all know that typhoid fever is a specific infection which must run its course of four, five, six or ten weeks or longer," or it may be that one will sapiently remark "If there is one fact in medicine that is well established, it is that the course of the disease in typhoid fever can not be shortened by a single day;" and these erudite persons seem to deem these parrot-like assertions as incontrovertible testimony, amply sufficient to confute totally and instantaneously the whole of the accumulated evidence of my clinical experience; quite sufficient, too, to disprove the statements of all the proficient physicians who have corroborated my diagnoses and results. But it should be remembered that unwarrantable assumption is not valid reasoning and the plausible arguments that have been adduced in confutation of my claims are not more convincing than have been opposed to every step in the progress of medicine

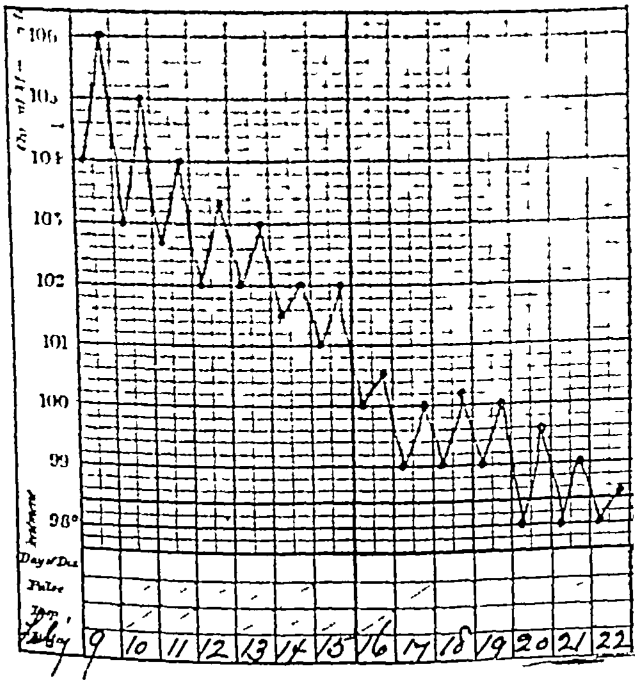
In the Cleveland Medical Society where, without malice toward any member of the medical profession of that city or county, but for the two-fold purpose of emphasizing my confidence in the potency of antiseptic medicine, and also of letting the profession abroad, comprehend and realize that I had attained the unattainable—that I had, in defiance of all known laws of pathology, "achieved a victory" over diseases of a microbic origin, which, when accepted by the medical profession, would add perceptibly to the average duration of human life, by greatly reducing the mortality from this class of diseases—I told what I had accomplished, described my method of procedure, stated in strong language the responsibility which I believed devolved upon those members of the profession who, knowing or having the means of learning how to save the lives of all cases of typhoid fever and who failed to give their patients the benefit of the knowledge, thus nettling the members of this, as well as of my own local society, to such an extent that had my house been made of glass, it would have been about my ears—for my expressions were harshly criticised and in the heat of debate many broad and preposterous arguments were advanced

The ubiquitous professor, already in possession of all of this world's knowledge that is worthy of his attention, was ridiculously conspicuous in a way that would have been laughable had not the subject been so serious, and exposed his ignorance, not only of antiseptic medicine, but of the true character and pathology of typhoid fever Thus, one savant added superciliously and blusteringly to his remarks "He claims that the temperature has gone to normal in four or five days after intestinal hemorrhage Absurd! What could he do for the ulceration of the bowels?" As if the ulceration of Peyer's glands were the cause of the elevation of the temperature Absurd! And as a climax and a final adjustment of the subject said, sententiously "Talk of aborting typhoid fever Impossible!"

To me, and to those who have with ease, confidence and tranquillity aborted the disease, these infelicitous comments are "absurd," indeed

A latter-day Sydenham, gifted with peculiar perspicacity, selected three charts as looking very much like the record of the temperature in cases of malarial fever The fact of the matter is, that his extraordinary clear-sightedness availed him nothing for he had, unluckily for himself, chosen the charts of three cases of typhoid fever which occurred during two epidemics The patients had been examined and the diagnosis verified by no less than six different physicians at the bedside, and no doubt was expressed, at the time, as to the character of the disease It is hardly conceivable how so grievous a mishap could have befallen the critic for unfortunately the lines on the charts did not delineate the rise and fall of the temperature of malarial fever—a blunder most inexcusable even in the most inexperienced medical man. The arguments thus adduced by notable professors whose reputation for scholarship beyond measure has heretofore been unquestioned have been puerile indeed—unworthy alike of the speaker, his auditors and the topic under discussion. It is hard to understand, too, how a philosopher so penetrating, so profound could be so willfully blind as not to have observed that at least fifty of these were the clinical charts of typhoid fever patients, each one of whom had been examined by from two to six physicians, the diagnoses and results of treatment attested to and all of these facts written on the face of the original charts which were signed by physicians whose integrity and experience in diagnosis can not be questioned.

But when these charts were criticised and when the fact that the temperature touched normal in seven or eight days was said to be proof that these patients did not have typhoid fever, I knew that if the opportunity should ever present itself, I would be able to demonstrate on the cadaver the truth of my statements. I little expected, however, that I would live to see a case of *aborted typhoid fever* in the dead house.



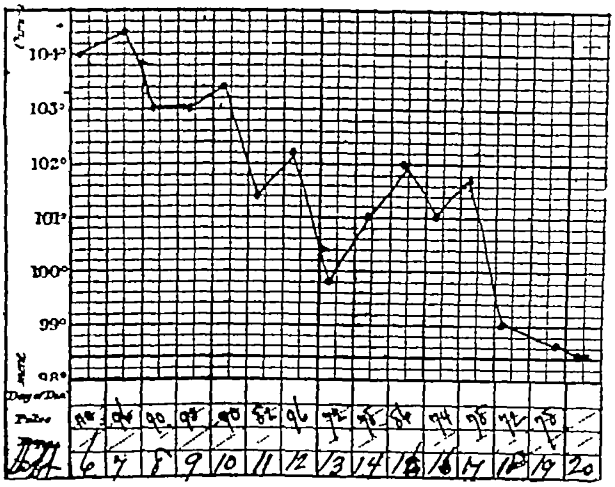
Dr Justice s case Lorenzo C date of admission Feb 9, 1895

But here I present to you a temperature chart kept at the bedside of the patient by the attending physician, Dr M V Cunningham (Case No 3—James K) in which the temperature touched normal on the seventh day of treatment, the thirteenth day of the disease. And here I present to you, both dried and moist specimens of the intestine of the same patient, showing the characteristic and extensive ulceration of Peyer's glands. Here is the intussusception which caused the death. Please open the bottles and investigate to your entire satisfaction. The history and the pathologic specimens prove conclusively that one case of typhoid fever was aborted. "*Ab uno disce omnes.*" Thus, this obscure colored man—dying—has rendered a greater service to the world, than can her most distinguished citizen—living.

It is interesting to note that every adverse criticism of my theories, my management of disease or of my conclusions have come from those having no practical and I fancy, very little theoretical knowledge of the subject, while those who have tested my methods have favored me with more valuable reports and kindly expressions of approval than I have been able to transcribe or properly answer.

I append a few of them here. I presented others in my papers read before the Sections on Pediatrics and Practice of the AMERICAN MEDICAL ASSOCIATION.

Dr John McCurdy, one of the most distinguished physicians in the State of Ohio, many times President of his County Medical Society, ex-President of the Ohio State Medical Society, during the war, Regimental, Brigade and Division Surgeon, Assistant Medical Director and Acting Medical Inspector of the 11th Army Corps, has had 320 cases of typhoid fever under his care at one time. A firm believer in the idea that any limitation of the course of the disease in typhoid fever was impossible, in the County Medical Society in 1880 he spoke eloquently against the acceptance of my theories, and in 1893 in the same Society in which he had spoken thirteen years before, said "Dr Woodbridge has made the greatest discovery that has been made in medicine for a hundred years. I have treated typhoid fever by his method for several years, and have aborted a large number of the sixty-five or seventy cases treated since 1890, although I have not been able to abort every case and have had two or three deaths, these occurred, however, in cases that came under my care at the end of the second week of the disease or later. I know that this treatment has power to destroy the specific poison of typhoid fever and if begun early will abort the disease. It is the best treatment I have ever seen advised."



Dr I F Reed s case, No 1 Clarence F age 24 years residence, Massillon, Ohio date of admission Sept 6 1894 After the 21st temperature remained normal, pulse 76 Treatment "Woodbridge" formulas for aborting typhoid fever

At a public banquet given to the Chamber of Commerce, at which there were probably three hundred guests present, Dr McCurdy, in responding to the toast, "The Medical Profession," said "We claim that one of our number here is the discoverer of a treatment for that universal and justly dreaded disease, typhoid fever which, as a rational and scientific plan of waging battle with that life destroyer, is far in advance of any treatment yet practiced This treatment has stood the crucial test of years, in hundreds of cases, and the theory is fully sustained by the long list of victories achieved"

Dr C R Justice, the very able Health Officer of Poland, Ohio, and ex-Member of the Pension Board, with whom I have had seventeen bedside consultations over cases of typhoid fever during the past year, had for years condemned my theories and denounced my position as "absolutely untenable," until I had learned to regard him as a devotee at the shrine of the "expectant method,' who would go on to the end of his professional career treating the disease symptomatically, accepting the long weeks of sickness of his patients as something entirely beyond his control, and the deaths as visitations of Providence for which he was in no way responsible I was greatly surprised, therefore, to learn that he had been investigating the subject for months That he has continued his investigations to good purpose is proved by the success he has secured in treating some very severe cases of typhoid fever (a few of the charts of which are submitted for your inspection), and by the fact that I was able to write to one of his brother practitioners of his town, advising him to call Dr Justice in consultation, as he had treated so many cases by my method that I felt perfectly safe in saying to the friends of the patient that if they called him early enough they need never fear that he would have a death from typhoid fever, or that any of his patients would be severely ill

Your attention is especially invited to the clinical chart of Case—(Dr Justice, Lorenzo C) who had been under the care of two other physicians at a neighboring town He had been sent home with the statement that he had a severe attack of typhoid fever and would necessarily be sick a long time He arrived, wildly delirious, with a temperature of 106 degrees and all other symptoms characteristic of the disease His temperature touched normal on the eleventh day and in a few days he was out driving, feeling perfectly well

Dr Justice has treated during the year, by my method, twenty-three cases without a death, although some of them have been complicated by grave preexisting or concurrent affections and some of them came under his care at late stages of the disease In speaking of the treatment, Dr Justice said "Looking back over the past, I can see where I could have saved many lives had I understood this method of managing typhoid fever as I now do, and I think I would be committing a crime were I to treat a case of the disease in any other way than that advised by Dr Woodbridge"

Dr J A Dickson, of Youngstown, Ohio, a gentleman of the highest integrity, a physician whose reputation as a general practitioner is happily not marred by his success as a laparotomist, sends me the following report

"YOUNGSTOWN, OHIO, April 29, 1895

"I have treated several cases of typhoid fever with Dr Woodbridge's treatment, and find that it will invariably cut the fever short, if begun early enough in the disease, the illness lasting often but a few days, the temperature soon dropping to normal and remaining there I have tried also the mixed treatment, that is, using the tablets as directed and also, perhaps, some turpentine emulsion, quinin, etc, but find that it pays better to 'hew to the line' I have recently been treating a case of typhoid fever, which came to me from another physician who was ill It had not been treated by Dr Woodbridge's method, and when I first saw the case I found the temperature 104 degrees, the pulse 100 I immediately began with the tablets, giving one every fifteen minutes for the first day, one every half-hour during the second day, and one every hour during the third day, etc During the second day the temperature came down to 101 8, upon the third day it was 101 1 fourth day 101 4, fifth day, 101 2, sixth day 98 6 After this the temperature remained normal for four days, when the patient came down with pneumonia, with the characteristic râles, ægophony, hepatization and expectoration—from which he is now recovering The temperature upon the onset of the pneumonic trouble went up from normal to 101 8 the first day, and gradually to 103 degrees, but the tongue was moist and there were no symptoms of typhoid fever

"If I were stricken with typhoid fever, or one of my family were taken down with the dread disease, I think I would feel like sending for Dr Woodbridge from the Atlantic Coast to the Golden Gate J A DICKSON"

There must be royal blood coursing through the veins of Dr Reed of Massillon, Ohio, for of such material as he is made, made they the kings and rulers of the earth in olden times In one of the darkest hours of my existence he wrote me as follows

"MASSILLON, OHIO, Nov 14, 1894

"*J L Woodbridge, M D*,

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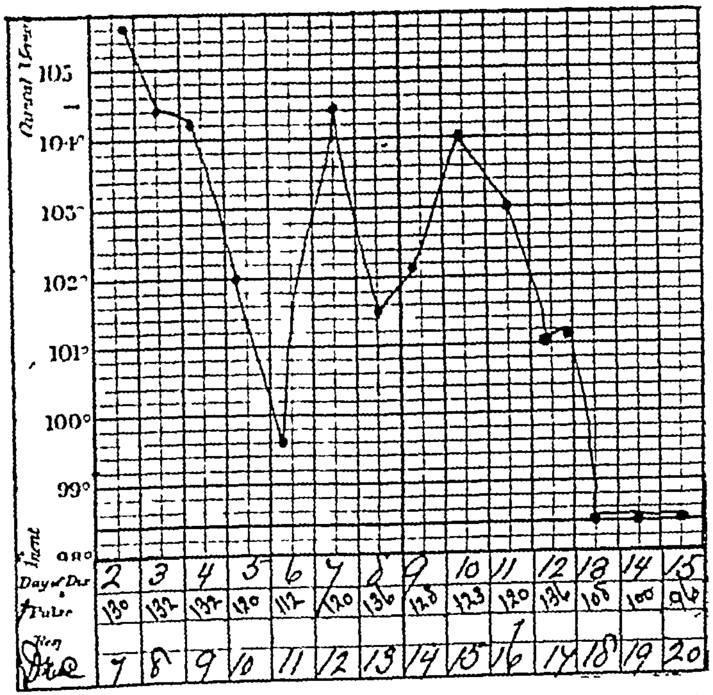

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T J Reed"

(To be continued)

CONSERVATIVE SURGERY ON THE BATTLE-FIELD AND FIRST AID TO THE WOUNDED

BY N SENN, M D, PH D, LL D

COLONEL AND SURGEON-GENERAL OF THE ILLINOIS NATIONAL GUARD PRESIDENT OF ASSOCIATION OF MILITARY SURGEONS OF ILLINOIS EX PRESIDENT OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

CHICAGO

(Concluded from page 14)

Autotransfusion —In threatening danger to life from hemorrhage much can be gained from autotransfusion The exclusion from the general circulation of unessential parts of the body will often secure for the vital organs an adequate blood supply Autotransfusion for this purpose is secured promptly and efficiently by elastic constriction of one or more extremities at their base This can be accomplished by Esmarch's constrictor, suspenders, or in the absence of elastic material, by the use of the Spanish windlass According to the urgency of the symptoms presented, the base of one or more extremities is constricted after rendering the limb comparatively bloodless by elevation By exclusion of the circulation from one or more extremities, intravascular pressure compatible with essential functions is restored and life is bridged over for a sufficient length of time for the employment of remedies of more lasting value

Shock —Next to hemorrhage, shock should receive the surgeon's attention It is often difficult to differentiate between the symptoms produced by shock and hemorrhage The non-professional assistant should be made to understand that the maximum symptoms of shock are developed almost immediately after the receipt of the injury, while in hemorrhage the intensity of the symptoms increases progressively Even in a complete transverse tear of an artery the size of the common carotid, it requires at least five minutes to produce death from hemorrhage In intense shock, symptoms pointing to a fatal issue appear almost immediately upon the receipt of injury Shock is the result of a reflex vasomotor paresis and, consequently, if severe, calls for the most energetic and prompt treatment A patient suffering from shock should be kept in the dorsal recumbent position and treated by active stimulation Inhalations of nitrite of amyl and hypodermatic injections of strychnia in doses of from one fifteenth to one-twentieth of a grain, repeated every half hour, until reaction takes place, constitute the most successful treatment The administration of alcoholic stimulants, camphor and ammonia is also indicated, as well as the external application of dry heat In the transportation of patients suffering from shock, the greatest care should be exercised not to subject them to any unnecessary movements, and it is of special importance that the recumbent position should be maintained until reaction is established No operation of any considerable importance should be performed until the patient reacts from the immediate effects of the injury

Primary Dressing of Wound —Perfect aseptic surgery upon the battle field is a happy dream which will probably never be realized The bullets, as recent experiments have shown, are frequently contaminated with pathogenic microbes, and often carry with them infectious fragments of clothing and other foreign substances, as well as microbes from the surface of the injured part Again, in large battles the number of wounded is so great and the number of those to whom their treatment is intrusted so small, that the necessary antiseptic precautions to obtain an antiseptic condition of the wound can not always be carried out The duty of the surgeon upon the battle field in rendering the first aid to the wounded, after having given proper attention to the treatment of shock and hemostasis, will be to prevent subsequent contamination of the wound by protecting it with an antiseptic occlusion dressing Shaving and disinfection of the surface in the vicinity of the wound will be out of the question under such circumstances Search for bullets and efforts to secure their removal must be postponed until the patient reaches the field hospital, where these procedures are facilitated and the attending danger of causing infection diminished by a more complete instrumentarium and more efficient means to secure asepticity of the wound and its vicinity

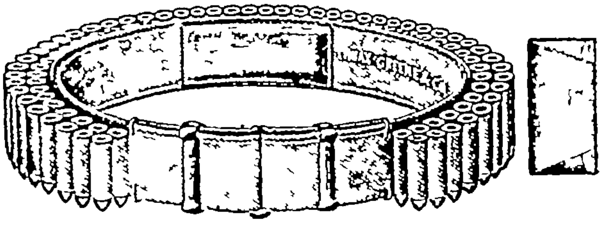

FIG 12 —Cartridge belt with package sewn on inner surface

Behind the fighting line, and at the first dressing station, the primary dressing of the wound should consist of the antiseptic package which every soldier should carry with him The best place where this package should be kept has not been determined Esmarch suggests that it should be sewed in some part of the uniform It appears to me that no part of the clothing of the soldier would be a sufficiently

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NOTE —The 'denunciations' to which Dr Reed refers are those of physicians who denounce the abortive treatment of typhoid fever without trial or investigation as they would denounce anything which did not chance to fall within their intellectual horizon in advance of any treatment yet practiced This treatment has stood the crucial test of years, in hundreds of cases, and the theory is fully sustained by the long list of victories achieved "

Dr C R Justice, the very able Health Officer of Poland, Ohio, and ex-Member of the Pension Board, with whom I have had seventeen bedside consultations over cases of typhoid fever during the past year, had for years condemned my theories and denounced my position as "absolutely untenable," until I had learned to regard him as a devotee at the shrine of the "expectant method," who would go on to the end of his professional career treating the disease symptomatically, accepting the long weeks of sickness of his patients as something entirely beyond his control, and the deaths as visitations of Providence for which he was in no way responsible I was greatly surprised, therefore, to learn that he had been investigating the subject for months That he has continued his investigations to good purpose is proved by the success he has secured in treating some very severe cases of typhoid fever (a few of the charts of which are submitted for your inspection), and by the fact that I was able to write to one of his brother practitioners of his town, advising him to call Dr Justice in consultation, as he had treated so many cases by my method that I felt perfectly safe in saying to the friends of the patient that if they called him early enough they need never fear that he would have a death from typhoid fever, or that any of his patients would be severely ill

Your attention is especially invited to the clinical chart of Case—(Dr Justice, Lorenzo C) who had been under the care of two other physicians at a neighboring town He had been sent home with the statement that he had a severe attack of typhoid fever and would necessarily be sick a long time He arrived, wildly delirious, with a temperature of 106 degrees and all other symptoms characteristic of the disease His temperature touched normal on the eleventh day and in a few days he was out driving, feeling perfectly well

Dr Justice has treated during the year, by my method, twenty-three cases without a death, although some of them have been complicated by grave preexisting or concurrent affections and some of them came under his care at late stages of the disease In speaking of the treatment, Dr Justice said "Looking back over the past, I can see where I could have saved many lives had I understood this method of managing typhoid fever as I now do, and I think I would be committing a crime were I to treat a case of the disease in any other way than that advised by Dr Woodbridge "

Dr J A Dickson, of Youngstown, Ohio, a gentleman of the highest integrity, a physician whose reputation as a general practitioner is happily not marred by his success as a laparotomist, sends me the following report

"YOUNGSTOWN, OHIO, April 29, 1895

"I have treated several cases of typhoid fever with Dr Woodbridge's treatment, and find that it will invariably cut the fever short, if begun early enough in the disease, the illness lasting often but a few days, the temperature soon dropping to normal and remaining there I have tried also the mixed treatment, that is using the tablets as directed and also, perhaps, some turpentine emulsion, quinin, etc, but find that it pays better to 'hew to the line' I have recently been treating a case of typhoid fever, which came to me from another physician who was ill It had not been treated by Dr Woodbridge's method, and when I first saw the case I found the temperature 104 degrees, the pulse 100 I immediately began with the tablets, giving one every fifteen minutes for the first day, one every half-hour during the second day, and one every hour during the third day, etc During the second day the temperature came down to 101 8, upon the third day it was 101 4 fourth day 101 4, fifth day, 101 2, sixth day 98 6 After this the temperature remained normal for four days, when the patient came down with pneumonia, with the characteristic râles, ægophony, hepatization and expectoration—from which he is now recovering The temperature upon the onset of the pneumonic trouble went up from normal to 101 8 the first day, and gradually to 103 degrees, but the tongue was moist and there were no symptoms of typhoid fever

"If I were stricken with typhoid fever, or one of my family were taken down with the dread disease, I think I would feel like sending for Dr Woodbridge from the Atlantic Coast to the Golden Gate

J A DICKSON "

There must be royal blood coursing through the veins of Dr Reed of Massillon, Ohio, for of such material as he is made, made they the kings and rulers of the earth in olden times In one of the darkest hours of my existence he wrote me as follows

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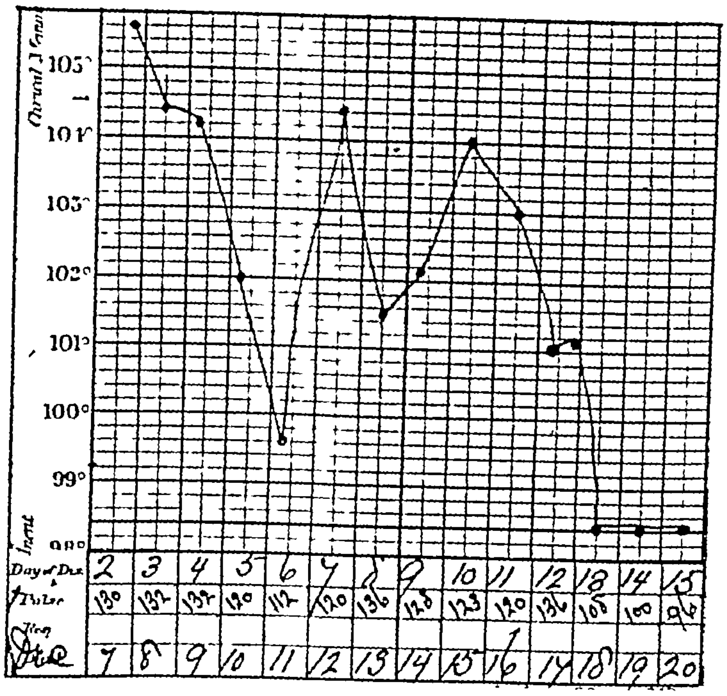

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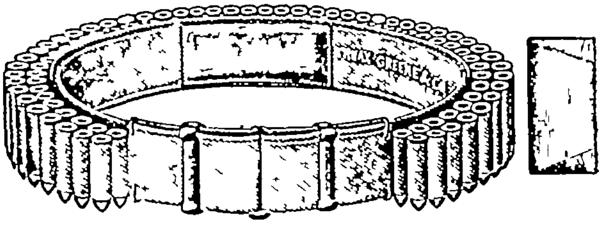

FIG 12 —Cartridge belt with package sewn on inner surface

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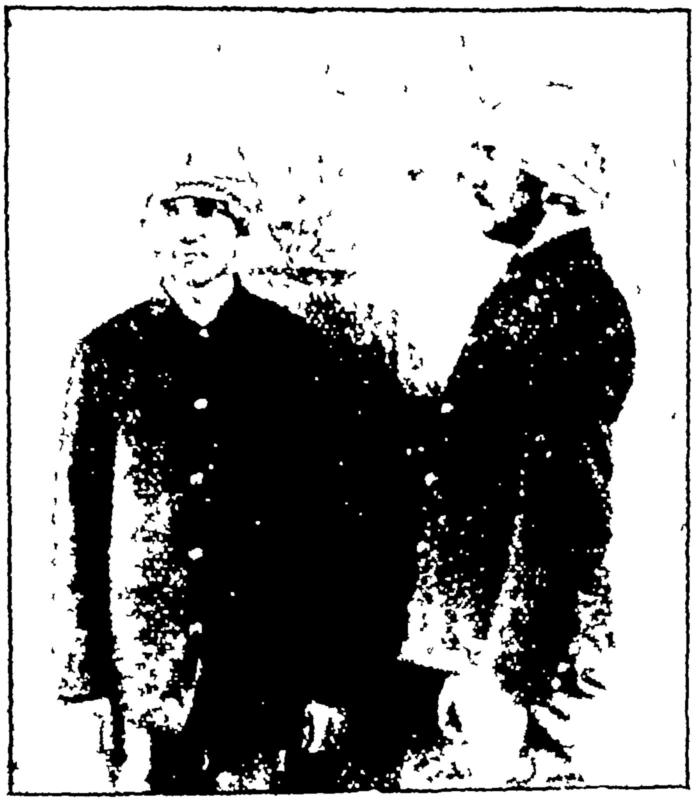

FIG 13

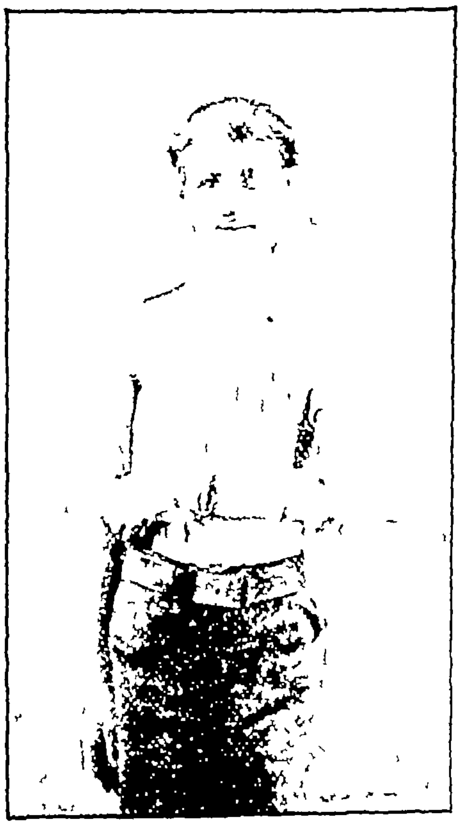

FIG 14

be found upon the wounded soldier if it were sewed upon the inner surface of the cartridge belt The package should be thin and correspond in width with the cartridge belt Esmarch's package used in the German Army contains one triangular bandage, one safety-pin, two compresses of salt sublimate mull, 10 cm wide and 100 cm long, each wrapped in impermeable paper, one salt sublimate cambric bandage, 10 ctm broad and 2 m long All these articles are wrapped in gutta percha paper This package is too cumbersome and contains articles which can be dispensed with in the dressing of wounds upon the battle-field In the majority of cases the first dressing is only a temporary one and is replaced later when the wound is subjected to thorough examination and treatment by a more efficient one The package should be as small and compact as possible and should contain only such articles as are absolutely necessary to protect the wound against infection during the interval between the receipt of the injury and the arrival of the patient at the field hospital Cotton is the most compressible hygroscopic dressing material and the most efficient filter in preventing the access of microbes to the wound Two drachms or half an ounce of compressed salicylated cotton will furnish the necessary material for a primary occlusion dressing This can be held in place in almost any part of the body by a triangular gauze bandage, assisted, if circumstances make it necessary, by the cartridge belt, gunstrap, or articles of the patient's clothing A safe and efficient antiseptic powder which does not easily deteriorate should invariably constitute a part of the package A combination of boric and salicylic acid is the one I should propose for this purpose Two grams of boric acid and half a gram salicylic acid, thoroughly triturated, should be incorporated in the center of the compressed cotton, the cotton surrounded by the triangular gauze bandage and with the addition of a safety pin wrapped in gutta percha tissue

FIGS 13, 14, 15 —Showing primary dressings of the head, upper and lower extremities

In applying the dressing, the compressed cotton is loosened, the wound freely dusted with the powder contained in the center of the package, the wound well covered with the cotton which should overlap its margins, and the dressing held in place by the triangular bandage and such additional extemporized means of retention as may be necessary

For the purpose of preventing rapid decomposition of the blood which will soon saturate the primary dressing and with a view of guarding against infection of the wound from this source it is absolutely necessary to incorporate with the dressing material and bring in contact with the wound a safe and efficient antiseptic which, in this package consists of a combination of boric and salicylic acid

Immobilization of Injured Joints and Fractured Limbs—In the case of fractures and joint injuries the affected limb should be properly immobilized to prevent additional injury and pain during the transportation of the patient to the field hospital As it is impossible for the surgeons and Hospital Corps to carry with them upon the battle field, material for splints in sufficient quantity, they must depend upon articles which can always be found upon the battle-field, in securing for the limb a proper mechanical support A few of such extemporaneous dressings will be shown in the following figures

The splint should be well padded with the blanket, or articles of wearing apparel In compound fractures and penetrating wounds of joints, perfect immobilization by a plaster-of Paris splint should be secured as soon as possible, but as this can not be done behind the fighting line, for obvious reasons, the temporary improvised dressing should be replaced by the permanent fixation dressing at the field hospital Antiseptic precautions and perfect immobilization will be the most important elements in the conservative treatment of compound fractures and penetrating injuries of large joints

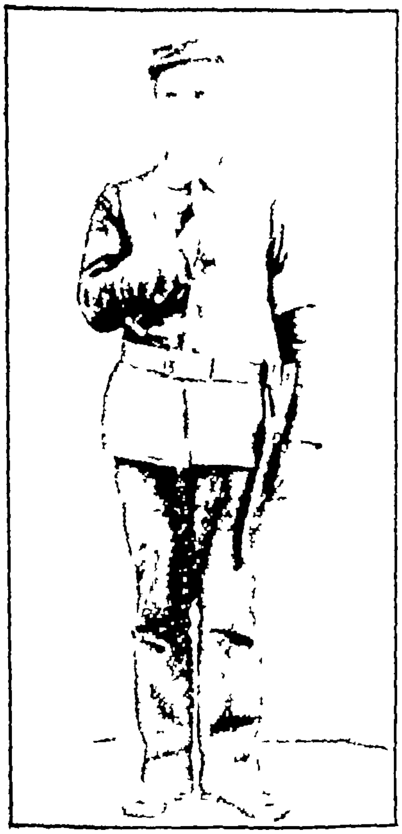

FIG 16 —Immobilization of arm and forearm by fastening the sleeve to the coat near the wrist and elbow joints with safety pins and inserting hand underneath coat on opposite side between two buttons

Transportation of Sick and Wounded —Increased and improved facilities for rapid transportation of the wounded from the fighting line to a place of safety, will be an essential requirement in securing the greatest amount of benefit from conservative surgery upon future battle-fields The general introduction of the new infantry weapon will make it necessary to establish the field hospital farther in the rear of the line of battle than formerly Unless a natural protection by a hill or deep ravine is available, it will be necessary to locate the field hospital at least 3,000 meters from the line of action This will necessitate an improved ambulance service The latter will be resorted to in transporting the severely wounded from the point where the first aid is rendered to the first dressing station

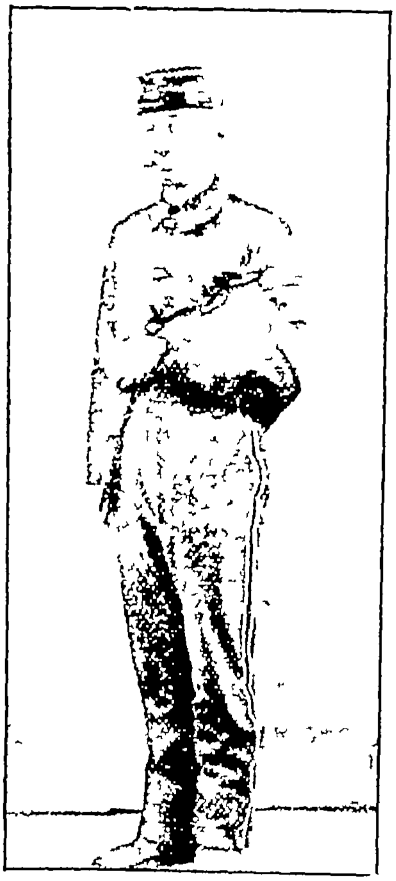

FIG 17 —Mitella by fastening lapel of coat on injured side with two safety pins in such a position as to support the forearm in a flexed position

A well trained Hospital Corps, and the use of improved litters and ambulances will be instrumental in securing prompt and easy conveyance of the wounded from the line of duty to their destination An efficient bicycle litter is a much needed desideratum in the transportation of the wounded from the fighting line to the first dressing station and field hospital

The Surgeon's Work at the Field Hospital —The conservative work begun on the battle field is continued at the field hospital, which offers additional facilities for the practice of ideal conservative surgery

It is here that efficient measures can be employed to correct the injurious effects of profuse hemorrhage and to overcome the symptoms of prolonged shock It is here that every serious wound will be thoroughly examined and under strict antiseptic precautions will be subjected to the necessary treatment It is here where permanent hemostasis will be substituted for temporary measures It is here that the abdomen and cranial cavities will be opened for penetrating wounds requiring such intervention for the arrest of hemorrhage, the removal of foreign infected bodies and the direct treatment of visceral wounds It is here that permanent plaster-of Paris splints will be substituted for the temporary fixation dressings, in cases of compound fractures and penetrating wounds of joints

Indications for Probing and Extraction of Bullet —The modern small caliber bullet will render a resort to the bullet probe much less frequent than was the case in the wars of the past Owing to its greater velocity and power of penetration it will pass through the different parts of the body, regardless of the resistance offered by the osseous structures at a distance intended for shooting to kill In the presence of a wound of entrance and exit the use of the probe should be dispensed with, as an exploration of this kind would yield no indications of diagnostic value and might become a source of infection or a cause of renewal of hemorrhage The jacketed bullet is less liable to undergo deformation in striking a hard object such as bone, and is also less likely to become deflected than the leaden bullet Additional modifications of the character of the bullet wounds will render the use of the probe less frequent in the future than the past Search for the bullet under antiseptic precautions is justifiable in gunshot fractures, penetrating wounds of the cranium and joints It is absolutely contra-indicated in penetrating wounds of the chest and abdomen In bullet wounds of the soft parts, an attempt in this direction is warranted when the surgeon has reason to believe that the bullet is located

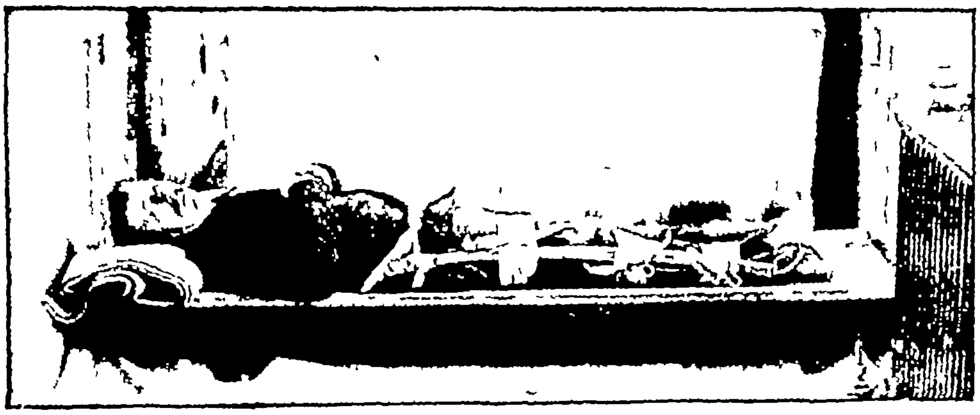

FIG 18 —Saber splint for leg and thigh

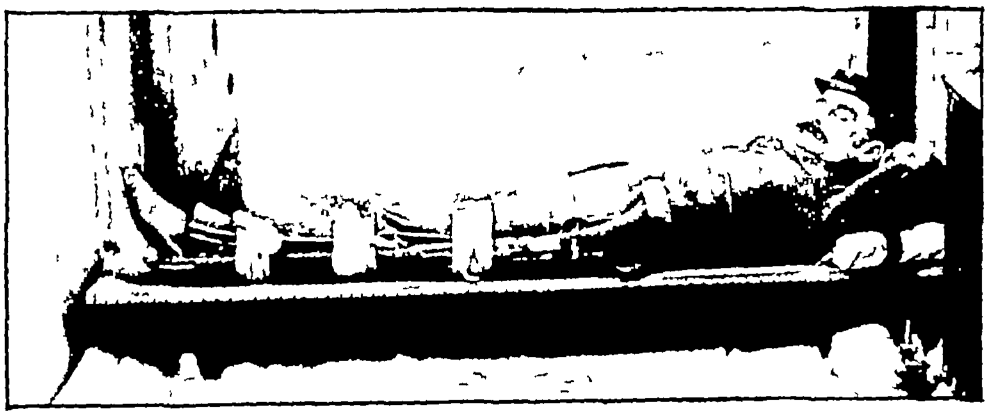

FIG 18 a —Gunsplint

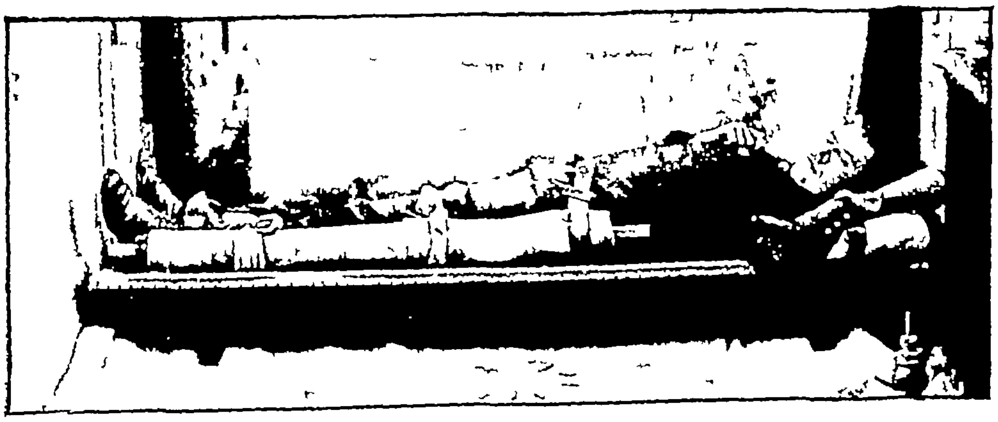

FIG 19 —Stick and blanket splint

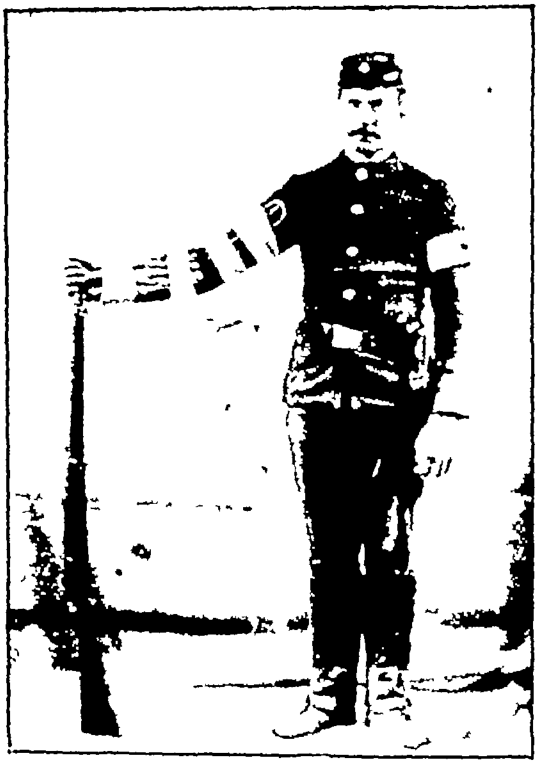

Fig 20 —Bark splint for forearm and wire splint for arm

in a place accessible to its safe removal Probing for bullets, on the whole, has done more harm than good in the past, and the limits of the indications for this procedure will be greatly narrowed in the future If the bullet can not be removed without performing a formidable operation it is much better to permit it to remain and wait for additional indications than subject the patient to additional risks incident to the operation The modern bullet in an antiseptic wound will become encysted like the leaden bullet and, in the majority of cases, will remain permanently in the tissues as a harmless foreign substance If the nature of the injury makes the search for and an attempt at its removal necessary, the exploration should be made systematically and under the strictest antiseptic precautions

The metal jacket of the modern bullet detracts from the value of the famous Nélaton probe, and has made the equally famous American bullet forceps obsolete as an instrument of extraction The porcelain bulb of Nélaton's probe will however, answer a useful purpose in following the track made by the bullet and in demonstrating the presence of a foreign substance in the soft tissues The porcelain bulb of the ordinary Nélaton's bullet probe is too small, especially in searching for bullets of large caliber It is much easier to follow the tubular wound made by a bullet with a probe, the porcelain bulb of which approximately corresponds in size with that of the bullet As in instrumentation of the urethra, a false passage is more likely to be made with a small than a large instrument I have had a bullet probe made which is supplied at both ends with a porcelain bulb, one of which corresponds in size with a 22 caliber bullet, the other with that of a 38 caliber

The porcelain bulb of the ordinary probe is very liable to become detached in exploring deep wounds, and may be lost in the wound, as happened in one of my cases To prevent such an accident, the bulbs of my probe are drilled through, the ends of the silver probe pass through, and are clinched in a depression on the surface of the bulb In searching for bullets it is of the greatest importance to bring the parts and tissues of the body as nearly as possible in the exact position they occupied when the injury was received That no more force should be employed in using the bullet probe than in passing a catheter is simply to repeat a cardinal rule to which there should be no exceptions Skill in the delicate manipulation

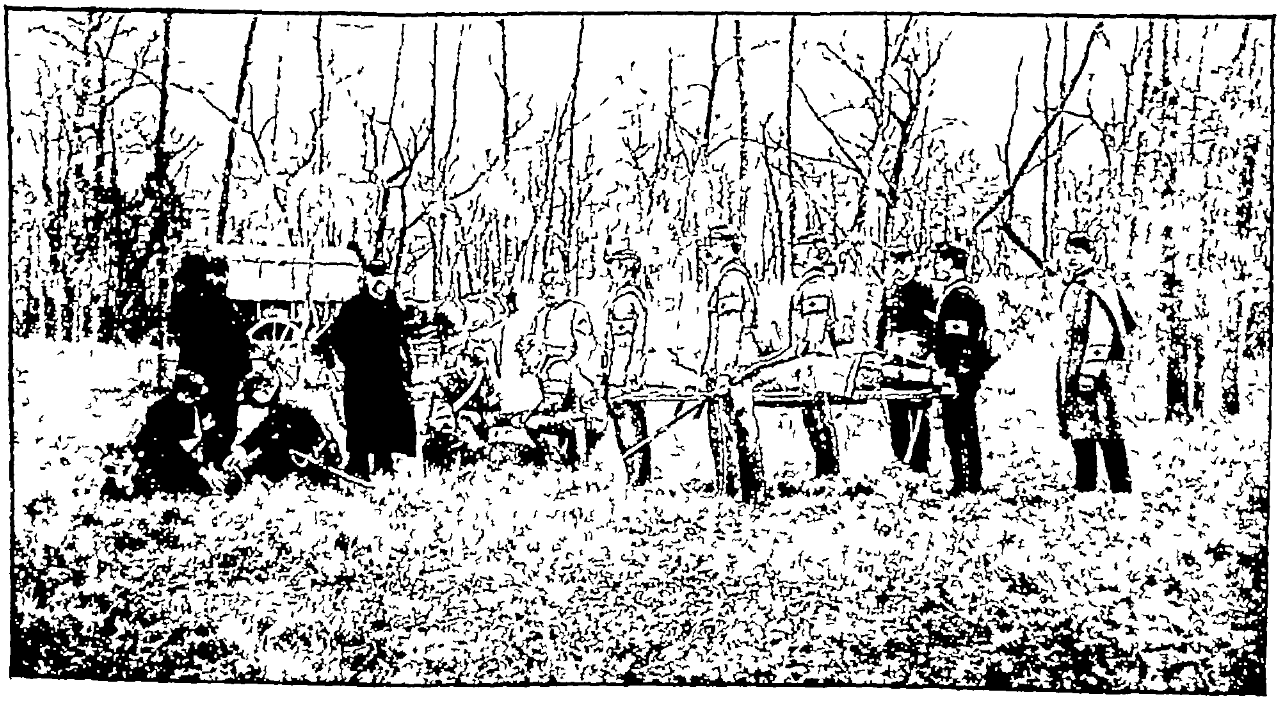

Fig 21 —Litter transportation

of the instrument, patience and perseverance will accomplish more than force in these cases Bullets which can be felt under the skin opposite the wound of entrance are extracted without exploration of the wound canal If the bullet occupies a locality where its presence would be incompatible with a good functional result, as the cavity of a large joint, it becomes usually necessary to enlarge the wound with the knife, chisel and mallet to follow the course of the bullet and to effect its extraction In one case I removed a 22 caliber bullet from the center of the knee joint by such a procedure, in a boy 14 years of age, who recovered with nearly perfect use of the limb A similar case is reported by Volkmann The metal jacket of the modern bullet will make it necessary to construct bullet forceps with great grasping power to facilitate its extraction In penetrating gunshot wounds of the skull, Fluhrer's aluminum probe and his technique in removing a bullet from the cranial cavity merit the earnest attention of every military surgeon

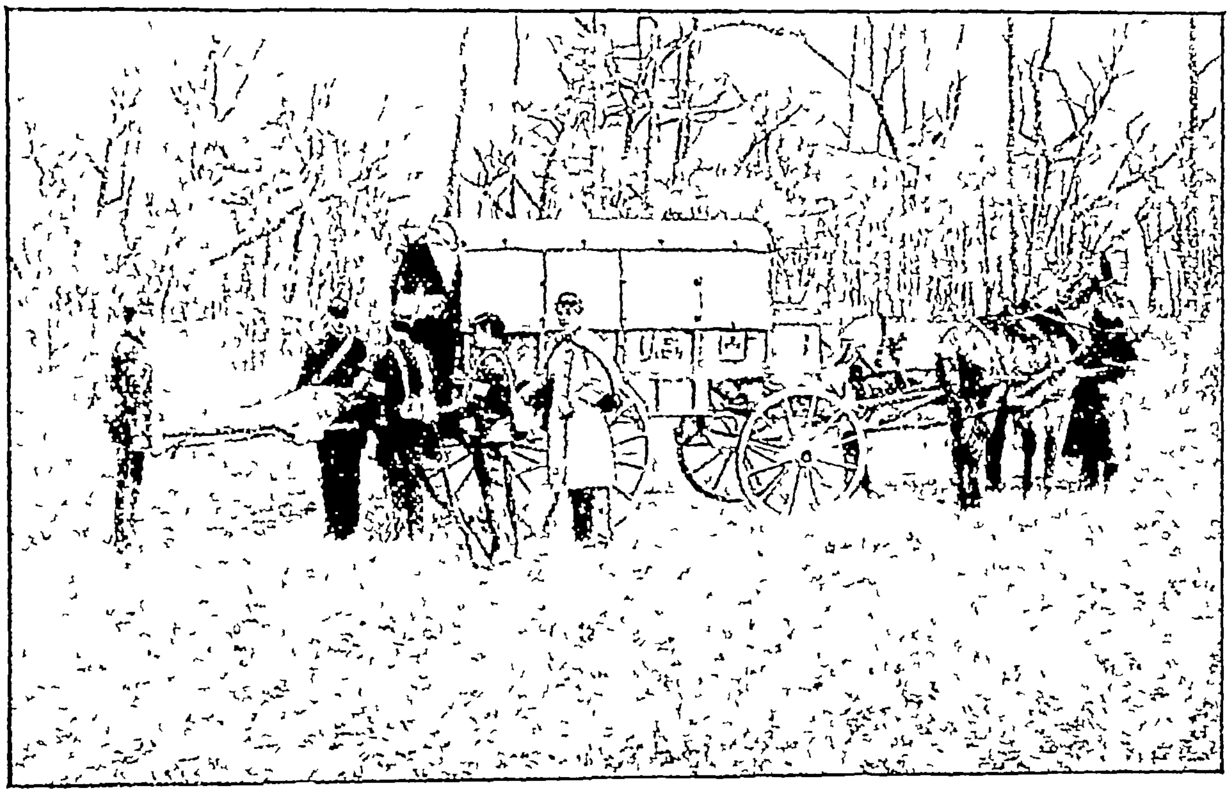

Fig 22 —Manner of transferring patient from litter to ambulance

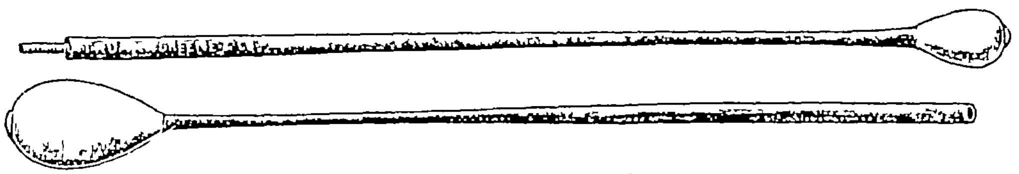

Fig 23 —Senn s bullet probe

Craniectomy —Operative interference is indicated in every case of penetrating gunshot or stab wound of the cranium The object of such operation is to secure asepticity of the wound and its environment, removal of loose spicula of bone and infected foreign substances, arrest of hemorrhage by torsion, ligation or tamponade and, if feasible, removal of the bullet

The wound of entrance is enlarged with chisel or rongeur forceps sufficiently to enable the surgeon to meet the indications for the operation If the bullet is lodged in the interior of the skull, it may become necessary to make a circular craniectomy in the course of the bullet at a point opposite the wound of entrance, for the purpose of establishing thorough drainage and to facilitate the removal of the bullet

Laparotomy —In my address at the last annual meeting, I discussed the advisability and feasibility of laparotomy upon the battle-field in cases of penetrating bullet and stab wounds of the abdomen, and I shall not occupy your time on this occasion by further remarks on this subject

Amputation —The object of conservative surgery upon the battle-field, as well as in civil practice is to obviate, whenever possible, the necessity of mutilating operations Prompt and careful hemostasis, antiseptic precautions, immobilization of compound fractures and injured joints, and early and careful transportation of the wounded from the field to the temporary hospital are the most fruitful resources of the modern military surgeon in the prevention of complications that so often necessitated intermediate and secondary amputations in the wars of the past A primary amputation for gunshot wound of the extremities is only justifiable by extensive injuries of soft parts and fractures and joint wounds complicated by injury of large vessels and nerves In other words, the indications for a primary amputation will be studied and sought for, more by the character and extent of the injury of the soft tissues than the extent of the bone or joint lesion In doubtful cases the patient will be given the benefit of the doubt, as under antiseptic precautions the risk to life is greatly diminished in the attempt to save a limb by conservative treatment The conditions which will demand an intermediate or secondary amputation in cases thus treated will prove less perilous to life than in the past, an additional inducement to practice conservatism in doubtful cases

Resection—Primary resection for gunshot wounds of joints for obvious reasons has become an obsolete operation in modern military surgery The most brilliant results have already been obtained by conservative treatment of such cases The military surgeon will make it his duty in such instances to resort to such measures as will prevent complications necessitating secondary resection and amputation Thorough disinfection of the wound, removal of loose fragments of bone and infected foreign substances including the extraction of the bullet, if this is found within or in the immediate vicinity of the injured joint, gauze drainage and immobilization of the limb in a circular plaster of Paris splint are the most effective measures in accomplishing this end

I have briefly sketched in this paper the essential topics which will engage the attention of the military surgeon in the future in keeping pace with the rapid advances of modern surgery, and which will enable him to extend the blessings of conservative surgery to the wounded upon the battle field of the future The members of this Association should regard it as their duty to so perfect themselves in the principles and details upon which rests ideal conservative surgery, as to apply it in practice should they be called upon to serve their country upon the battle field

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PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI)

BY BYRON ROBINSON, M D

PROFESSOR OF GYNECOLOGY POST GRADUATE SCHOOL
CHICAGO

(*Continued from page 657, Vol XXII*)

Development of the great omentum did not seem to give anatomists any amount of trouble before the digestive canal was carefully followed in all its fetal stages Is it true? From the old descriptions of anatomists some modifications, it seems to me, must be introduced The two blades of the peritoneum which extend from the greater curvature of the stomach to the transverse colon are recognized by all as correct But it is the relation which the transverse colon sustains to this fold that needs modification I will proceed with a few simple diagrams to make myself better understood The first, (Fig 11) will represent the adult stage with the relations of the transverse mesocolon The mesogaster extends from the mid-dorsal line to the stomach as a double fold of peritoneum It grows or expands toward the left in the form of a pendulous bag When the stomach has assumed the adult position, the mesogaster becomes the great omentum and hangs down from the great curvature of the stomach in front of the small intestines The object of the diagrams is now to show how the transverse colon gets between the blades of the great omentum, and then it will fit the old descriptions of anatomists who knew not embryology Figure 12 shows how the fold of peritoneum (*d*) passes back to the spine I wish to show that the peritoneal fold (*d*) is dragged out from between the stomach and colon I wish especially to show that it does not coalesce In the early embryo the cecum remains in the center of the body in proximity to the navel, so that there is at first only a descending colon existing which has a mesentery By the rotation of the great umbilical loop and growth of the colon, there finally exists a transverse and ascending colon Until the great intestinal loop rotates, the whole of its colon is fixed to the mid-dorsal line by its mesentery This mesentery extends as high as the lower end of the mesogaster By a glance at Fig 2 it will be readily seen how Haller, Muller and Meckel come by their views With them the lower blade of the great omentum and the upper blade of the mesocolon coalesced, i e, the loop or fold of peritoneum represented by (*d*) becomes adherent, it is cemented together and has lost its epithelial surface and that would produce Fig 1 again Now, the view held in this work and gained by embryologic and adult animal investigation is that the fold of peritoneum (*d*), is drawn out as far as the transverse colon (*c*), and is readjusted, displaced Haller, Muller, Meckel and many older anatomists asserted in order to sustain their theory, that the transverse mesocolon consists of four layers It seems to the author more reasonable to accept the theory of displacement or re-adjustment, since coalescence is not a general rule in tissue life, especially when it has been once differentiated into organs Toldt claims that the theory of coalescence is reasonable, and as proof offers the white line existing along the left side of the descending colon I have examined such white lines, but they seem to be situated distant from the colon It might be pertinently asked, Why does coalescence, especially, associate itself with the transverse colon and omentum? The assertion of old and even modern anatomists to the effect that the two ascending layers of the omentum can be stripped off the upper transverse blade of the mesocolon, in fetuses, I do not believe to be true, at least in no fetus of any age could I separate the ascending layers of omentum from the transverse mesocolon The view that makes the two ascending layers of the omentum pass to the vertebral column and then return (or at least one blade return) over the transverse mesocolon and at the same time coalesce, I do not believe will be sustained by careful investigation in embryologic and adult mammalian life

The following statements I can make from human embryologic work take an embryo of about an inch long and the colon will consist of a transverse

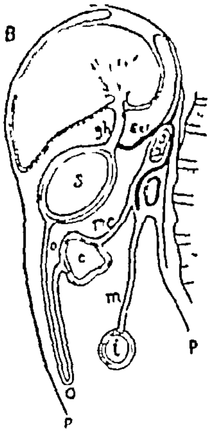


Fig 11

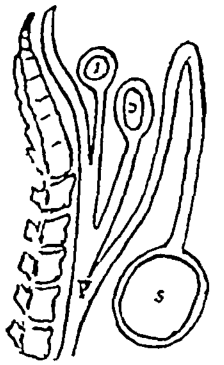


Fig 12

Fig 11—s stomach m c, meso colon o great omentum m, mesentery of small intestine c colon p, parietal peritoneum i small intestine g h gastro hepatic omentum This figure represents the adult condition of the peritoneum and in the next figure I wish to show how the peritoneum develops from the fetal to the adult condition

Fig 12 shows the fold of peritoneum, d against the dorsal wall s, stomach c colon i, small intestine The object of the diagram is to illustrate how the fold d, descends to allow the transverse colon to finally lie between the meso-colon as in Fig 16 and ascending part which has, so far, no connection with the great omentum Now, the ascending layers of the great omentum pass directly back to the spinal column, but do not touch the colon to be fixed to it as in Fig 13 Again, the under blade of the omentum passes downward to become continuous with the upper blade of the transverse mesocolon as in Fig 13 at *d* The whole interest, now, lies in the peritoneal fossa at *d* The final disposition of the fossa, *d*, will determine the theory of coalescence or displacement, Fig 14 If the fold of serous membrane, *d*, is dragged out displacement triumphs, but if the fold at *d* adheres, coalescence carries the day Now, take embryos of about one and one-half to two inches and we find distinctly that the transverse colon is beginning to assume relations with the great omentum But significantly it begins on the right end—a very important matter The reason is the close relation that the right end of the transverse colon bears to the duodenum and consequently the mesogaster The mesoduodenum is really a part of the great omentum As a matter of fact, the great omentum assumes relations with the transverse colon gradually from right to left This, in my opinion proves that this new relation of the omentum and transverse colon comes about by displacement (from right to left) rather than coalescence, i e, the fold, *d*, is gradually displaced from right to left and the relation of the great omentum and colon assumes adult relations (Fig 15) As the relations of the omentum and colon gradually arise, we can not trace the two ascending layers of the great omentum back to the spine, because the transverse colon has gained access to the space between the lower blades of the omentum as seen in Fig 1 Beside, I never could discover any positive evidence of adhesions or coalescence between the lower blade of the omentum and the upper blade of the transverse mesocolon The fold, *d*, becomes gradually drawn out from between the lower blade of the great omentum and upper blade of the transverse mesocolon as is represented in Figs 12, 13, 14, 15, and 16 until the adult condition, Fig 11 and 16 is reached

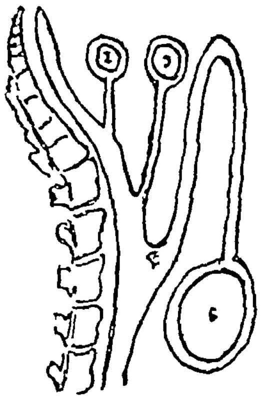


Fig 13

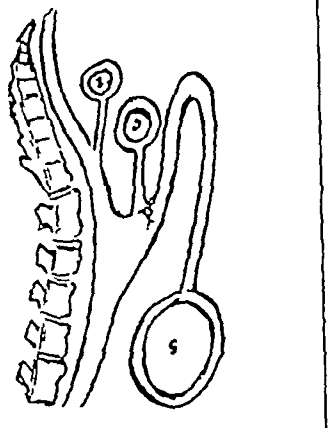


Fig 14

Fig 13 shows the fold of peritoneum, *d*, gradually being drawn out from between the layer of omentum and mesocolon *s*, stomach *c*, colon *i*, intestine The fold, *d*, is being gradually displaced and not coalescing with its adjacent layers

Fig 14 illustrates further progress in displacing or dragging out of the fold *d*

Fig 15 shows the last stage of the displacement of the fold, *d* The dog, in my opinion, gives the best base to work on In the dog, one can easily observe how the process proceeds In Fig 1, it can return on itself, so that the two ascending layers of the omentum, as they pass back to the spine diverge to embrace the transverse mesocolon and again converge to form the transverse mesocolon It may be asked, What are the forces which tend to displace the fold, *d*, i e, what drags the fold of peritoneum, *d*, from between the omentum and mesocolon The rapid increase in the size of the stomach and its being forced downward by the liver may be factors But it is more likely to be the rapid increase of the transverse mesocolon It also fills with meconium and will drag on its mesentery The increase in size and dragging from meconium contents are no doubt the essential factors A curious feature of embryos under one and one-half inches or up to two inches, is that the colon is the smallest part of the digestive tube and the colon has no bands, no appendicæ epiploicæ and no sacculations But in fetuses of some three inches an extraordinary rapid growth occurs in the colon, and meconium begins to accumulate which no doubt accounts for many new changes in the relation of the colon and the blades of the great omentum Hence, from considerable personal observations on embryos, both human and animal, and investigations on adult man and mammals, I am of opinion that the transverse colon assumes its relations with the layers of the great omentum by displacement and not coalescence

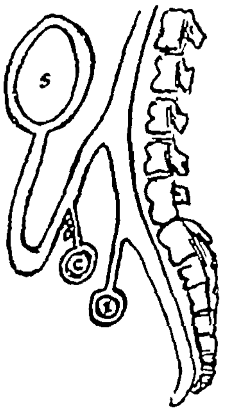


Fig 15

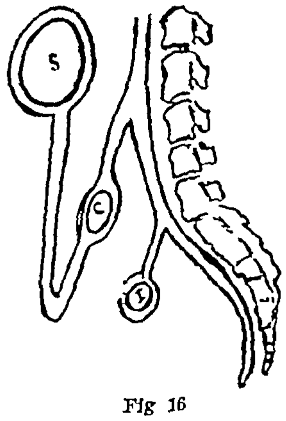


Fig 16

Fig 15 shows the fold, *d*, almost entirely drawn out or displaced It is the stage just preceding the one where the transverse colon lies in the mesocolon through *displacement or readjustment and not coalescence*

Fig 16 represents the final adult condition of the omentum, i e the transverse colon, *c*, now lies between the blades of the mesocolon, or in other words, between the layers of the secondary mesogastric The peritoneal folds and pocket connected with *d*, have disappeared

Dr Lockwood has written an excellent article on the development of the great omentum, to which the reader is referred Dr Lockwood makes the significant remark that coalescence is not a common occurrence The size of the great omentum is a very variable matter In man it normally reaches in the pelvis In the dog it reaches well in the pelvis In the pig, so far as I have examined, it is not quite so liberal The great omentum is not so liberal in the horse or ox as in man and animals There is no rule or principle in comparative anatomy, known to me, whereby one can estimate in any animal the amount of great omentum It is reported present in all mammalia, but least developed in cetaceous animals, hence the difficulty of comparing it in animal species In about three hundred bodies examined, living and dead, I found the omentum in various conditions as regards size In quite a number of humans, both living and dead, I have found the omentum so large that it covered nearly every abdominal viscus out of sight In one autopsy, performed by Dr Waite and myself, the omentum was so large that scarcely a point of the liver was visible, after opening the abdomen as wide as possible with a crucial incision In some parts the omentum was about an inch thick, so that such a body would possess at least six square feet of great omentum A dog is much more liberally supplied with great omentum than man In short, so far as I can observe by peritoneal examination, man has relatively less peritoneum than any other animal The great omentum may spread over all the abdominal viscera, except a portion of the liver and stomach I have seen it cover almost the whole of the abdominal viscera and become tucked in around the edges like a bedquilt, forming a wonderful protection against infectious invasion and also a wonderful protection against the distribution of pus In general, children have not large omenta The omentum increases especially from the sixth fetal month until birth It then grows rapidly in the first and second years of life It must be remembered that the omentum exists distinctly in fetal life from the second month on, and I think I have found it at the end of the first month So, for large sized omenta we must look at extra-uterine life, just beyond the age of childhood, in the early stages of adolescence

The omentum is variously supplied with fat One can observe it as transparent as glass in subjects dying of long and continuous wasting diseases I have observed the human omentum loaded with fat an inch thick When the fat first begins to accumulate in the omentum it assumes the paths of the blood vessels and in various animals it appears in streaks of elegant figures In most animals with a large omentum the accumulation of fat is at first quite ornamental, as it figures the highways of nourishment The color of the fat varies from a white marble color to that of a pronounced yellow The fat is inclosed in the meshes of the connective tissue, especially in the mesenterii membrana propria The omentum is inclined to fat accumulations in all animals which I have examined (or noted in comparative anatomy works) The fat seems to be in indirect amount to the size and number of the blood vessels, hence the greatest accumulation of fat is at the roots of the omentum, along the greater stomach curvature or along the colon transversum So far as I have been able to observe, the fat in the omentum is in direct proportion to the fat in other portions of the body When the fat is abundant one can observe that it molds itself to the various chinks and depressions existing between the adjacent viscera It tucks itself down in the crevices between intestinal coils and clefts of organs After a certain amount of fat accumulations in the omentum one can not determine the course of vessels

The position of the omentum I have observed in some animals and in over one hundred humans It may reach into the floor of the pelvis or it may be rolled up behind the transverse colon until it will not be visible on opening and turning outward the abdominal walls The first and most generally applicable statement in regard to the position of the omentum is that it tends to the left in nearly every case This seems to be on account of the relation of the omentum to the spleen and ligamentum phrenico-colicum. Also because the last relation of the transverse colon and omentum is assumed at the left end of the transverse colon, *i e*, in the ligamentum phrenico colicum The acquired relations of the left lower border of the great omentum with the ligamentum phrenico colicum arises in fetal life—in the fifth month and more completely later The left-sided tendency of the great omentum is also induced by the greater curvature of the stomach being well disposed to the left of the median line

(To be continued)

SOCIETY PROCEEDINGS

American Electro-Therapeutic Association

Fourth Annual Meeting held in New York Academy of Medicine New York, Sept 25, 26, and 27, 1894

WILLIAM J HERDMAN, M D, President

(Continued from page 52)

Mr F B N, age 28 Presented himself for treatment, June 5 1894 Impairment of general health Has had catarrhal trouble for many years For four years tinnitus aurium, at first in both ears never bad in right ear and disappeared after a month Trouble in left ear persistent Once in a while has a roaring, never without the hissing noise Post nasal dropping, formerly profuse discharge from anterior nares, but now dry with scabs and crusts No odor Has been under the care of specialists for past four years

Physical examination tonsils enlarged, swollen, intensely red Uvula swollen, elongated, tipped with string of mucous and deflected to the side General relaxed condition of pharyngeal mucous membrane with marked congestion and hypersecretion Left Eustachian tube thickened and not free to Politzer's test Hypertrophy of middle turbinated, left nares Has been treated for thickening of left Eustachian tube and drum of left ear Passage of left nares obstructed by enlarged turbinated bone, middle

Diagnosis atrophic rhinitis, with thickening of left Eustachian tube and drum

Treatment in all thirteen hydro electric applications, negative, water slightly saline, one quart, have been administered to ear at intervals of four and five days, current strength 4 to 6 milliamperes Occasionally, not oftener than once in eight days before beginning the nasal douches, the indifferent electrode was the copper sound at the mouth of the Eustachian tube, at other times, the ordinary electrodes (area fifteen square inches) at the nape of the neck After first negative douche there was complete cessation of the hissing sound and it remained in almost complete abeyance for an hour, much modified during the day It has continued to gradually grow less and from a sibilant hiss has become a sound of a similar nature reduced at least a half Hearing distance—test by means of watch—has increased two inches At one time tinnitus disappeared for one hour and a half immediately after treatment

For the atrophic rhinitis seven applications of the CU_2SO_4 cataphoric douches were given at intervals of seven and eight days, 8 gr to 1 qt, sp gr 1002, percentage strength 0 02057 Indifferent electrode, fifteen square inches in area, placed at nape of neck, current strength 3 to 10 milliampères

After first nasal douche there was a good deal of smarting and burning through nasal passages and in frontal sinuses, with suffusion of eyes and coryza, also a headache which lasted during the entire day Subsequently there was a very free watery discharge from anterior nares Three days later the tonsils, uvula and entire pharyngeal mucous membrane were found markedly less swollen and congested, with very much diminished secretion The watery discharge from anterior nares continued in gradually diminishing quantity during the week and was slightly increased at each subsequent treatment but not to the same extent as after the first application Nasal respiration became freer, scabbing ceased, also post nasal dropping, tonsils and uvula returned to normal size and color Two cupric punctures of 11 milliampères each to the hypertrophied, middle turbinated, left nares, resulted in a marked diminution in its size These were not made until the establishment of relief by means of the electric douche General health very much improved

In administering the intra-nasal douche, the left nares, narrowed by the hypertrophied turbinated, was preferably utilized for the inflow so as to secure perfect drainage

Left Eustachian tube free Patient continues under care Other cases of atrophic rhinitis have been treated in the same manner with the same clinical results

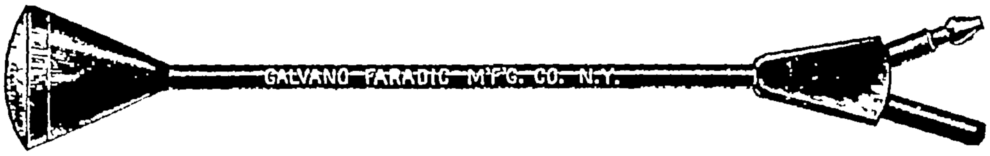
THE STOMACH

For some time electricity has been used within the cavity of the stomach by means of a specially devised electrode in the hands of Dr Max Einhorn of New York His method is to have the patient drink a requisite amount of water and then to swallow the electrode, which is subsequently attached by means of its conducting cord to the battery terminal and the pole indicated Possibly, in general conditions, there is no better method of applying the electrical current

My experience with hydro-electric applications to other cavities suggest the value of the electric douche, simple or cataphoric, in diseases of the stomach. If judiciously applied, and by an expert, one can not fail to see its possible value in many conditions, among which may be mentioned, atony, hyperesthesia, subacute gastritis and dilatation

Since beginning this paper, I find that Rosenheim[7] suggests the use of a stomach douche non-electrically applied, and while advising the use of electricity in nervous dyspepsia, in chronic gastric catarrh and in severe affections of the sensory and secretive apparatus of the stomach as in gastralgia and hypersecretion, he does not, so far as I can ascertain, combine the use of the douche and the electric current

I simply suggest the use of an electric douche in these conditions of the stomach and have arranged to have an electrode constructed for that purpose If an electric douche applied to the surface of the body has a more stimulating action upon the skin than to be immersed in the constant current bath, may we not expect better results from the use of the douche to the stomach than by permitting the patient to swallow the water and then dropping in an electrode The action of the douche heightens the sensibility of either skin or mucous membrane, quickens motor excitability and can not fail to influence nutrition and absorption by its control over the distribution and circulation of the blood current The function of the current in either event is to establish artificially the local electro-motive forces which stimulate metabolism Would it not be possible in this way to bring reflexes under the effects of the stimulation much more readily than by any other method?



Electrode for external use

I have also used hydro-electric applications of the constant current 3 to 10 milliampères to the face in acne, comedones and the general mal-nutrition of the skin, which exists in these conditions with success, and present an electrode here for such applications

The same electrode I have found useful in localizing the electric douche, simply or medicated, upon patches of eczema and other diseased conditions of the skin

Cataphoresis—The amount of cataphoretic transfer depends upon the quantity of electricity, the coulombs transferred through the partition the resistivity of the solution and upon the nature of the porous septum It is independent of the area or thickness of the septum[6]

A solution of sulphate of copper of requisite strength can be used to advantage in gonorrheal cases In the later stages of gonorrhea, in conditions of pelvic congestion, uterine catarrh and in some leucorrheas, hydrastin thus diffused would be of much greater efficacy than in its ordinary administration by the mouth, or by means of vaginal injections Bichlorid of mercury in solution can also be used according to the indications and in strength of 1 to 1,000 In all such instances we are enabled to avail ourselves, not only of the electric diffusion of the drugs, but the physiologic action as well That drugs thus used enter the local and ultimately the general circulation, no longer admits of doubt This diffusion takes place, as a rule, from the positive to the negative pole, but in some instances from the negative to the positive

Appropriate tests will at any time determine the drugs thus used in the urine, demonstrating beyond cavil that it is not a mere topical application, but that there is a systemic influence

In the treatment of syphilis, Gartner[9] and Ehrmann obtained not only the specific action of bichlorid of mercury upon the disease, but ascertained its presence in the urine as well after from fifteen to twenty minutes' treatment with the galvanic bath, containing from 4 to 6 grams of the drug The positive pole was used and a current strength of 100 milliampères These experiments have been corroborated by Kroneld in Professor Lang's clinic in Vienna In the treatment of gouty joints with bromid of lithium cataphoresis, lithium has also been found in the urine

Labatut,[10] who asks in general, what are the laws of quantity and quality which govern the transportation of material into the tissues, has chosen lithium for experiments and in the center of a rectangular glass case he put a piece of horse muscle and a solution of chlorid of lithium Electrolysis was carried on for an hour with 0 08 of an ampère, then the muscle was cut into equal parts and the lithium extracted Six-tenths of the amount used was found First there is a transport of lithium into the dead tissues and second, the first effects of this means of introduction is local, the several effects becoming manifest after diffusion into the circulation Lithium has also been found in the urine by spectral analysis in a patient treated four days

I have used in these hydro-electric douches a variety of medicaments, among them copper sulphate, zinc sulphate, bichlorid of mercury, iodid of potassium and hydrastinin

The strength of the copper sulphate as well as zinc sulphate has varied from three to nine grains to the quart As yet I have not seen fit to use solutions of greater strength, but doubtless shall

The specific gravity of these solutions is low and their resistivity is high The amount of transfer I hope to approximately determine, for instance, in the case of a vaginal application by the change in the specific gravity of the solution which has been used cataphorically

A solution of $CU_2 SO_4$ grs iij to Oij has a specific gravity at a temperature of 59 degrees F of 1 002, a percentage strength of 0 020507 and a resistance of 500 ohms

Even with a high E M F, say 90 volts, a cataphoric douche, vesical, vaginal, rectal or nasal, will only give from 3 to 10 milliampères

Case 1—July 14, 1894 Eczema of vulva, six months' duration, intolerable itching and intense burning Mucous membrane of vulva intensely reddened and irritated Dilatation of capillaries about meatus urinarius Same redness extending into vagina Characteristic vesicular eruptions extending from vulva to thighs and up to abdomen Treatment hydro electric douche, vaginal, negative, 25 milliampères, two and one-half quarts, also to vulva and all irritated parts, one pint, 5 milliampères Immediate relief Hyperemia immediately diminished

July 16, 1894 Reports great relief Treatment hydro-electric douche, vaginal, negative, (salt water always used with the douche for negative applications) 30 milliampères, three quarts Afterward douche to external genitals CU_2 SO_4 gr vj to a quart, positive, localized also to a protruding hemorrhoid, size of a hazel nut

Resistance immensely increased and current strength small, with solution of $CU_2 SO_4$ Hemorrhoid quickly became anemic and diminished in size one-third

July 18 Marked improvement, practically well

July 21 No symptoms, all eruptions had disappeared Hemorrhoidal mass shriveling as before with treatment

July 23 No itching, no symptoms of any sort

July 27 Same treatment Discharged Improved

Case 2—Mrs C Ovaritis, right, exudates, right side, and fibroid tumor, interstitial, developed in right and anterior walls of uterus Pain, soreness, sensitiveness to pressure, cruralgia, constipation, premature and profuse menstruation, impaired health, etc Here hydro electric douches only were given, negative, 20 to 50 and 75 milliampères Result, complete relief of all symptoms, disappearance of exudates with return of uterine mobility, regular bowels, regular and normal menstruation, relief of crural pain and establish-

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[7] Berlin Klinik, May, 1894

[8] Prof A E Kennelly

[9] Lewandoski, Electro diagnostik and Therapeutie Wien and Liepzig, 1892

[10] Labatut (in Revue d'Electrotherapie, January, 1894, page 185

Note—I have been obliged to give up determining even approximately, the amonnt of transfer by the change in the specific gravity, as the secretions present in the drainage and the difficulty of maintaining an absolute temperature of the solutions interfere with the accuracy of such an observation ment of general health Fibroid mass firmer, harder and more defined No increase in size, nor diminution but utter cessation of symptomatic evidence of disease Here current traversed tissues of least resistance and expended energy on ovary and exudative mass

Case 3—M M single age 31 Vulvitis Presented herself May, 1894 Mucous membrane of the vulva swollen, red sensitive and bathed in profuse glairy discharge General congestion and relaxation of vaginal walls and uterus Uterus sensitive, cervix slightly eroded Lower bowel filled with fecal matter General health markedly impaired, patient excessively nervous Treatment electrical douche, vaginal, negative, 30 milliampères, two quarts

In administering treatment a certain amount of overflow was purposely allowed bringing thereby the vulvular mucous membrane much more completely under the influence of the water electrode Patient left the office feeling very much relieved from the distressing local sensations

June 2, 1894 Patient reports that she is very much better, local sensations and consciousness markedly diminished Has lost her anxious face Looks brighter and more hopeful

Physical examination diminished swelling and redness, with no appreciable discharge Very little sensitiveness Repeated treatment

Case 4—K I H, age 28 Intestinal catarrh began in 1881 During acute attacks, four or five passages a day, at other times one or two For past seven months notices at times "pipe stem" substances whiter than feces Occasional pain after stool Passes a great deal of gas from bowel Patient easily tired, complains of frontal headache, almost constant for the past three weeks Patient feels weak, flushes and pales easily, appetite fair, sleeps well

Sept 13, 1894 Treatment, hydro electric rectal douche (two quarts saline solution) 20 to 30 milliampères Electrode introduced as high as sigmoid flexure This treatment repeated daily for six days Steady improvement each day as regards bowels and general health At present, Sept 25 1894, patient has only one movement a day well formed, gas almost gone, followed by no discomfort [1]

Case 5—A T, age 20, seamstress July 11, 1894 Atony of the intestine, constipated for past two years, constantly under medical care, much medicine, high injections for four months prior to coming under care, in a kneeling position, followed by movement but impossible to get a movement without them Medicine without effect Gaseous eructations, stools hard, round balls, dark brown color Face covered with acne Suffers from much bloating and distension of the bowels Headache, dizziness, impaired circulation and unhealthy appearance Four rectal douches were given with saturated saline (rock salt) solution, the electrode carried as far as the sigmoid flexure, with an Apostoli pad, thirty six inches area over the abdomen The last three were given consecutively Two quarts of water were used at each sitting, and from 20 to 30 milliampères of current The first and second treatments were followed by a free action of the bowels At the third treatment the stool was much more natural and very free, while after the fourth application there was a perfectly free and formed movement The patient was very much better felt well, and looked a different person than when she first came to the office The headache was relieved as well as the distressing symptoms from which she suffered She was given to take, after the action had been established, cascara mixture consisting of

Fluid extract cascara sagrada	4 dr
Dilute nitro muriatic acid	3 dr
Tinct nux vomica	4 dr
Elixir calisaya bark	to 4 oz

One teaspoonful three times daily in wine-glass of water Patient did not return for further treatment

Case 6—K E, age 38, married July 20, 1894 Pruritus vulvæ—diabetic—referred by her physician for local treatment only Sugar present Polyuria Violent itching and irritation, for relief of which patient resorts to most extreme measures All parts of the skin and mucous membrane about vulva thickened and reddened Small papules scattered over the mucous membrane Discrete vesicles scattered about the nates and inner aspect of thighs Treatment electric douche, vaginal negative, salt water, three quarts, C S, 40 milliampères During progress of treatment patient complained of pain which she likened to labor pain, showing the intense action of the current on the muscular fiber of the uterus administered in this way Pain ceased with the cessation of the treatment The electric douche applied to entire external genitals, with douche pan under patient From the time of treatment on July 20 up to the morning of July 23, when the patient reported through another person, there had been no return of the symptoms, save a slight irritation that morning Establishment of menstruation prevented patient's return for treatment July 23, and the day following I left the city for my vacation Case not followed up

Case 7—M H, age 26, single July 13 1894 Referred to me by physician at the Florence Mission Two years since laparotomy Removal of right ovary and tube Now gonorrheal vaginitis and urethritis Opportunity for infection three months ago Since micturition frequent with stinging and burning pain, itching and burning about vulva Characteristic creamy discharge oozing from vagina and meatus urinarius, extreme redness about vulva, localized redness and discharge at meatus urinarius Vagina reddened and bathed in creamy discharge Slight granular erosion of cervix uteri No sensitiveness of left tube or ovary Normal in size Treatment electric douche, cataphoric, 3 gr CU_2 SO_4 to quart of water, two quarts Four applications in all were made, extending over a period of ten days Current strength from 5 to 20 milliampères After first application there was no return of the burning, stinging pain upon micturition, no itching nor smarting of external genitals, and micturition was only of *normal frequency* At time of second visit, examination was made three hours after patient had bathed the parts, and there was absolutely no discharge At time of third visit, slight milky discharge about mouth of urethra, localized Electric douche, cataphoric, CU_2 SO_4, 3 gr to the quart, three pints, 6 to 10 milliampères of current was administered at this visit to the bladder by means of the two way vesical electrode The douche was also applied to the mucous membrane about the mouth of the urethra No pain nor discomfort Patient discharged July 23, 1894, without symptoms and without any local evidence of disease, the parts only moist as in health

Case 8—M B, age 42, widow Referred with diagnosis of rectal stricture Extremely constipated for two years Subject to violent attacks of pain, colicky, cramping, preceded by inability to empty bowels Pain relieved by movement consisting of tiny tape-like stools covered with mucus, pale in color Present condition the same Daily movement obtained under influence of drugs Character of stools as for past two years Appetite fair Sense of distension after eating, gastric and abdominal, gaseous eructations Circulation poor, extremities cold Headache, sense of vertical pressure, dizziness, sense of oppression in chest, easily fatigued, locomotion difficult, sleep broken

Physical examination abdomen covered with fat, pendulous, marked distension of cavity Percussion note extremely dull over transverse and descending colon, resonance poor, entire surface, some tympanites Rectal examination sphincter ani normal Hemorrhoidal veins distended Digital examination rectum free in middle and lower thirds At proximal end of upper third, encountered numerous folds of mucous membrane similar to invagination with sensation communicated to finger as of a doughy mass beyond

Diagnosis impacted colon, with fecal tumor at sigmoid flexure Treatment rectal electrode carried to sigmoid flexure, negative, Apostoli pad over abdomen, forty two square inches, positive, two quarts salt water, lukewarm, 15 milliampères for five minutes

The desire to empty bowels urgent Resulted in profuse, ill smelling movement, with large hardened fecal masses, followed by a second movement and a period of extreme exhaustion with chilliness A half pint of warm water was given by the mouth which, with rest soon restored patient to her usual condition In all some six applications were given, 15 to 20 milliampères, for from five to ten minutes, resulting in daily movements Subsequently Frankliniza-tion, with long percussive sparks, was employed, resulting in improved muscular tone No evidences of a stricture found Under care two months Recovered

DISCUSSION

Dr **Walker** asked the strength of the saline solution for use in the intestinal treatment?

Dr **Cleaves** replied that she had used it under and to the point of saturation, usually the former Quite an important part of the paper was the use of drugs cataphorically in the vagina and bowels and in nasal applications So far, she had used sulphate of copper and zinc more than anything else in gonorrheal vaginitis, nasal catarrh, etc

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[1] Patient remains perfectly well and has had no return of her intestinal trouble The Franklinic current, positive insulation, with long percussive sparks was given to further metabolic processes and encourage nutritional gain

Dr Massey said he had tried the negative electrical treatment of the bowel with some satisfaction in cases of membranous enteritis He also thought it had a general solvent action on pelvic exudates

(To be continued)

Colorado State Medical Society

Abstract of the Proceedings of the Twenty-fifth Annual Meeting, held at Denver, June 18 and 19, 1895

[Special correspondence of the Journal]

(Continued from page 28)

Wednesday, June 19

ENLARGED PROSTATE AND ITS SURGICAL TREATMENT

was the subject of a paper by Dr William P Munn, of Denver The enlargement of the prostate which frequently causes trouble after 60 years of age is not due to hypertrophy of the gland but to fibroid growths within it The resulting relaxation of the sphincter causes inability to retain the urine in the bladder, the encroachment of the enlarged gland upon the urethra in front causes retention, and the decomposition of the retained urine renders it acrid, causing pain He presented some special forms of prostatic catheter They retained the elevated beak, which he thought the one valuable feature of the ordinary instrument, but were furnished with a longer, flatter, slightly irregular prostatic curve He thought that so long as the urine could be kept clear, retained from three to four hours, and passed without pain, palliative treatment was to be relied on But when in spite of the best care the urine became cloudy, could not be retained more than an hour or two, and suffering was impairing the patient's general health, that operative measures should be promptly resorted to, before the general condition became such as to render improbable a favorable result He would first resort to prostatotomy, perineal or suprapubic according to the case, and would reserve castration as a last resort He reported six cases operated on, with two deaths and two complete recoveries, one of the latter only after castration

IS BICYCLE RIDING A CAUSE OF IMPOTENCY?

Dr John T Davidson, of Denver, thought that as bicycle riding became more general the number of cases of impotency would be found to be on the increase He had not found any riders who admitted such an influence on the part of the wheel, and did not think it a necessary result from proper riding But stimulation of the perineum would in time render it less sensitive to other stimuli and traumatism, especially from riding on an improperly fitted saddle, was likely to aggravate or excite other troubles that are recognized as causes of impotency

"Alopecia Prematura" was the subject of a paper by Dr J M Blaine, of Denver, who attributed it chiefly to two causes—the custom of using water on the hair at too frequnt intervals, and frequent shaving, which by a counter stimulation of the face tended to lessen the nutritive supply of the hair follicles of the scalp The share of this latter factor was indicated by the fact that among races that plucked the beard, or had little beard to start with, idiopathic alopecia was unknown Of predisposing causes, he regarded heredity as more common than disease of the scalp during childhood

Dr P R Thombs, of Pueblo, read a paper on "Epilepsy, Its Causes and Treatment" Definitions as to what constitutes epilepsy vary considerably, and its pathology is uncertain, but the neuropathic tendency seems to be the one constant essential condition The term idiopathic, applied to epilepsy does not mean that it is without cause, but that the cause has not been discovered A sharp distinction is to be made between reflex and traumatic cases, the prognosis for the latter being more favorable He believed that few chronic troubles are so much helped by treatment, but that the treatment must be carefully adjusted to the particular case A considerable proportion of cases are related to the uric acid diathesis, which can best be controlled by regulation of the diet

"A Case of Myxedema" was reported by Dr W J Rothwell, of Denver A man of middle age had typhoid fever four years previously, had since been losing strength and gaining weight, and presented a typical case of this affection Under the use of thyroid extract he lost thirty pounds in weight and got quite well The dose first given, 5 grains three times a day, had caused tachycardia and diarrhea, and had to be reduced to 3 grains After his recovery the remedy was continued in the dose of 1 grain three times a day, as the thyroid gland seemed to be entirely atrophied

Dr E R Axtell, of Denver, reported a case of "Toxic Paraplegia" The patient was a man of 23 years, who had begun to drink liquor at 8, and had frequent sprees before he was 12, had smoked cigarettes since he was 9, and had for three and a half years worked at painting He had probably suffered from multiple neuritis and meningio myelitis

"A Case of Pseudo hypertrophic Muscular Paralysis" was reported and exhibited by Dr J W Higgins, of Denver The patient was a boy of 15, of healthy Italian parentage He had been noticed to stumble easily at 1 year, and at 5 years the enlargement of the calves was perceptible The hypertrophy was marked in the lower extremities, but in the thorax and back, atrophy predominated

THE DIAGNOSIS OF CHRONIC CEREBRAL ABSCESS

Dr J T Eskridge, of Denver, presented an elaborate paper on this subject The differentiation of acute abscess of the brain may present great difficulties, but chronic abscess taxes the resources and skill of the most experienced clinician Etiology may fail to aid because the manifest cause is only one of several causes that have to act together to produce the result The same cause, too, may produce in different cases very different effects A patient with otorrhea of sixteen years standing, and who had received a blow on the head, died of brain tumor The autopsy in the case of a boy with otorrhea, psoas abscess and a head injury showed a small tumor On the other hand, the autopsy in the case of a man of 70, suddenly seized with symptoms of apoplexy, with no cause for suppuration, showed chronic cerebral abscess

The symptoms of chronic abscess are common to other forms of organic disease of the brain Conclusions from accurate histories may lead astray, but usually will indicate the truth The cause may have been forgotten but may be brought out by careful questioning Headache is usually pronounced, especially in the terminal period The typical temperature is normal or subnormal Optic neuritis is a valuable sign when present, and it is more frequently present than absent He concluded that the diagnosis of chronic cerebral abscess was often most difficult, and sometimes impossible, that resort to operation should not be limited to cases in which the diagnosis was certain, that the physician who never recommends an exploratory operation in a probable case of abscess cares more for his own reputation than for the good of his patient

"Opium Poisoning" was the subject of a paper by Dr Carl Johnson, of Denver It was based on fifty-five cases, of which eight were fatal In all but two, the drug had been taken by the mouth In thirty-five cases the stomach tube was required, the others were treated by emetics As an emetic he preferred apomorphia, one-tenth of a grain given hypodermically, but it should never be resorted to after unconsciousness, as it was then useless, and tended especially to cause cardiac depression As to stimulants, he regarded strychnia as the most valuable Atropia was of little value Potassium permanganate was of value to destroy the portion of the drug remaining in the stomach, but his experience with its hypodermic use to neutralize the poison in the circulation had been very unfavorable, the injections causing great rise of temperature and aggravation of the symptoms, beside local trouble if the patient recovered In the discussion, several physicians expressed confidence in the value of atropia

CASTRATION THE REMEDY FOR CRIME

Dr B A Arbogast, of Breckenridge, read a paper on this subject The rational solution for the problem of crime was to be sought in the restoration to normal condition of those capable of such restoration, and the speedy extinction of those not capable of it The physician is the proper one to suggest the remedy For the rapist and other sexual criminals the appropriateness of castration would scarcely be questioned It was the province of the Government to provide such treatment as was necessary to enable these defective individuals to become good citizens, and to effect the extermination of the criminal classes

Dr E Stuver, of Rawlins, Wyo, read a strong plea for "Asexualization for the Limitation of Disease and the Prevention and Punishment of Crime" Self-preservation is the first motive of action, and next to it comes the sexual instinct The conditions of city life are such as favor the development of certain forms of vice and crime, and the great charitable institutions of the day assist, by preventing the extinction of the vicious and the criminal, that otherwise would naturally occur It was time for the medical profession to turn its attention to the prevention of venereal disease the scourge of our civilization There is a wide spread tendency to do away with harsh punishments, that formerly had a tendency to check the propagation of the criminal classes The frequency of lynching shows a prevalent lack of faith in the present penal provisions There are three indications to be met punishment for the criminal act the restoration of the criminal to usefulness in society, and the prevention of future crime Asexualization meets these indications better than any other remedy The deterrent effect on others would be most powerful, and it would often convert the most dangerous criminal and disseminator of disease into a useful citizen

THE RESTRICTION OF TUBERCULOSIS

Upon this topic the society was addressed by Dr Victor C Vaughan, of Ann Arbor Mich He said that with the observance of certain rules, now fairly understood, the healthy and the tuberculous might mingle with impunity The place in which one is most safe from infection is the properly kept surgical operating room, and so with the observance of the proper precautions the place where the tuberculous congregate may be kept free from danger as regards tubercular infection But no climate is so salubrious but that local conditions can vitiate its value, and a place that may be good for the infected to live in, might become very bad for the healthy to visit He believed that primarily tuberculosis was usually an unmixed infection, and as such was rarely fatal Secondarily it becomes a mixed infection, and tends toward a fatal termination

To restrict tuberculosis the sale of tuberculous milk and meat must be prevented Cattle should be submitted to the tuberculin test, in which he had great confidence Sputa must be efficiently taken care of and disinfected To accomplish the object mere verbal instructions are not sufficient, the rules printed and circulated by boards of health, and the directions given by physicians do good but they are not enough Details and practical processes must be taught by personal instruction He advocated the establishment of schools for the instruction of consumptives in the care of themselves and the disinfection of sputa Such institutions should be State hospitals They would ameliorate the condition of the patient and prevent the spread of the disease Such a plan would be expensive but how great is the loss now sustained through the 150 000 annual deaths from this disease We have a parallel for the undertaking in the eradication of leprosy from Europe by the segregation of the lepers It would not be necessary that chronic cases of tuberculosis should remain permanently in such institutions After they had learned to take proper care of themselves and their sputa they could live in their own families without danger

Dr. E R Axtell showed a case of "Chronic Internal Hydrocephalus with Spina Bifida" The child was a year old, hydrocephalus had been noticed at three weeks of age There had been no convulsions The connection between the fontanelle and the spinal tumor, and their reciprocal relaxations as regards pressure was very noticeable

'The Germ Theory" was the theme of an elaborate adverse criticism by Dr E L Wood, of Pueblo He pointed out that many theories generally held in the past have been found wholly false The presence of the microbe in disease merely proves that the disease furnishes the conditions necessary for its growth Of no disease known to man is it proved that it depends on a microbe

THE EXTINCTION OF COMMUNICABLE DISEASES

This was the general title of a series of brief papers and addresses In some introductory remarks Dr Munn said, that experience with a century of vaccination and recent experience with cholera in this country and in Europe seem to justify the discussion of this subject Respecting the general bacteriologic status of the subject, Dr Crouch said It must always be remembered that the germ is not the disease In every case there is the question of the seed and the soil It may be as necessary to strengthen the defense as to avoid the attack We must still consider the possibility of specific diseases originating *de novo*, that is by the variation of non-pathogenic into pathogenic bacteria For instance, the possibility that the tubercle bacillus may exist in a non-parasitic form

Dr Henry Sewall spoke on "Tuberculosis Contracted in Colorado" It is very difficult to say where any case of tuberculosis is contracted, but practically we may assume that cases beginning here were contracted here In other health resorts, tuberculosis has become more common The climate of immunity is a myth The propagation of the disease among new races was directly in proportion to their contact with the race harboring the disease In four years twenty one cases of the disease contracted in Colorado had been observed Of these fifteen had been pulmonary, and thirteen had died In eleven the sputa had been examined, and in five autopsies had been made Eighteen of the patients had been in the State from two to twenty three years, fourteen for over five years In the last two years 100 deaths had been reported in Denver from tuberculosis contracted within the State, about 12 per cent of all such deaths in that period He concluded that tuberculosis contracted in Colorado was not infrequent, and that when so contracted it was extremely dangerous

'Is Diphtheria Doomed," was the topic assigned to Dr F E Waxham, of Denver He thought that while the weight of testimony was in favor of the use of antitoxin, the claim that by it diphtheria was doomed was not sustained Smallpox has never been stamped out by vaccination, and the immunity afforded by antitoxin was only temporary He believed it the best remedy we possess for diphtheria, but it had its limitations It should not be used in the mild cases that were sure to recover without it Among nineteen cases treated with it in Denver, in all of which the diagnosis was confirmed by bacteriologic examination, but three had died

On Scarlet Fever and the Public Schools," Dr C I Shoitenmroff of Denver, said An important factor in the spread of the disease is that light cases sometimes attend school throughout their course Others are not diagnosed so that other children from the family continue to attend When it is ascertained that a child with the disease has been in attendance the school should be closed until thoroughly disinfected Children known to have been exposed should be excluded It should be a duty of scholars and school officers to report all cases to the board of health It might aid to have some school officer a member *ex officio* of the local health board Boarding schools should also be under the supervision of the health authorities The spread of such a disease is favored by the lack of accommodations for the outer clothing of the scholars, which is therefore piled promiscuously together, and through library books

"Typhoid Fever and the Agencies that Contribute to It," were discussed by Dr S A Fisk, of Denver It was chiefly spread through drinking water and milk In a few cases nurses take it by contagion It is very difficult to entirely control a water supply, and failing this we must resort to boiling Freezing does not protect Attention must be paid to each individual case especially to disinfection of the stools If the medical profession would take the trouble, the disease could be, if not eradicated, at least controlled

"On Surgical Infective Diseases" Dr Leonard Freeman, of Denver said We hear too little of dangerous doctors, the doctrines of surgical cleanliness are still too little preached The needs of surgical cleanliness are bringing the mass of surgical work to specially trained surgeons in well equipped hospitals As to infective venereal diseases, inspection has utterly failed to limit their spread The most potent influence at our command for this purpose is education False and dangerous modesty should be cast aside Gonorrhea is more difficult to deal with than syphilis, because it is not so much feared, and it shows no tendency to lessened virulence

Thursday June 20

THE LOCOWEED (ASTRAGALUS MOLLISSIMUS)

A chemico-toxologic study was reported by Dr Carl Reudi, of Denver The symptoms produced by it especially in the sheep, closely resemble those of cerebro-spinal meningitis But the temperature is depressed, or not elevated except by intercurrent pneumonia The most striking postmortem appearance was the extreme anemia of the brain The active principle is difficult to isolate, and seems not to be a glucoside but an associated acid

Dr H B Whitney, of Denver, reported two cases of "Abscess of the Liver" and a third case of hepatic disease, not abscess but with hectic and other symptoms closely resembling that condition, with some general observations on the diagnosis of such conditions

"Mal assimilation Due to Chronic Gastro duodenal Catarrh" was the subject of a paper by Dr W L Dorland, of Pueblo He compared it to the conditions produced by chronic poisoning by lead and arsenic, and called attention to the importance of auto-infection, and the sterilization of the alimentary canal as an essential part of the treatment

'Dilatation of the Stomach" was discussed by Dr H C Crouch, of Denver The important fact is not so much dilatation as stagnation The clinical meaning of the term is, a condition in which the contents do not pass from the stomach at the proper time, as when it is not empty in the morning after an ordinary meal the night before He believed that in the treatment of this condition washing out of the stomach was not so often necessary as the practice of some would indicate For cases not relieved by medical treatment he urged recourse to surgical interference Gastro enterostomy was a comparatively simple and safe procedure, and gave brilliant results

The Committee upon Sanitation and Preventive Medicine reported upon the need of prophylaxis against phthisis in Colorado Of 812 cases terminating in death within the last two years in Denver, 540 were known to have originated outside of the State, in 163 the place of origin was not known, and in 100 it was Colorado

Dr H W McLauthlin of Denver, reported a case of Addison's disease lasting five years The autopsy showed atrophy of the suprarenal bodies and tubercular disease of the lungs

The American Neurological Society was invited to hold its annual meeting for 1897 in Denver

"Vomiting of Pregnancy and its Treatment" was the subject of a paper by Dr P J McHugh, of Fort Collins He regarded it as a reflex nervous disturbance, but had found that in the severe cases there had been some preexisting stomach trouble to which treatment should be directed He recommended resort to the use of the stomach tube for purposes of diagnosis, and if needed for treatment

Dr T M Burns, of Denver, described his plan of "Abdominoscopy in Obstetrics" He pointed out that in vertex presentations, on account of the flexion of the head, the forehead was more prominent than the vertex, and was the part to be sought for

"The Management of Retained Placenta," in the hands of Dr G H Stover, of Eaton, was If after ten or fifteen minutes the Credé method did not bring it away, to insert the hand and break up the adhesions which, in his experience, were always present in such cases

Dr T E Taylor, of Denver, reported a "Case of Symphysiotomy" The woman was aged 33, four previous deliveries had been by craniotomy, and she had been in labor several hours, the membranes having ruptured ten hours before the operation The conjugate diameter was two and five eighths inches The bones separated to two and one-half inches as the head passed The child was healthy, the mother left the hospital on the ninth day and was about her work after three weeks, there remained no movement of the pubic bones, and her gait was normal

"Disease of the Uterine Appendages" Dr Sol G Kahn, of Leadville, said that inflammation of these organs was due to gonorrhea and septic trouble after abortion Every case of metritis will extend to the tubes if neglected, but if metritis be properly treated we will have few cases of salpingitis He urged the curetting of the uterus, and local treatment, including ichthyol tampons, and applications of aluminum acetate to the cervix

Dr T A Stoddard, of Pueblo, believed that disease of the appendages occurred through extension of uterine disease, first to the tubes and from them into the abdominal cavity All cases of peritonitis were due to the escape of some irritant into the peritoneal cavity It should be remembered that fourteen women die of peritonitis to one man We should not permit a woman to carry around pus tubes and call it conservative surgery As to the talk of unsexing a woman, it should be remembered that the sexual life of woman is threefold, as woman, wife and mother, and that in two of these respects she was already unsexed when we come to consider the removal of diseased appendages

Dr W A Jayne, of Denver, read a paper on the "Management of Pelvic Suppuration in Women" He pointed out that in many cases extirpation of the uterine adnexa had not given relief Lately, removal of the uterus also had been tried, either by the abdominal or vaginal method, and this seems now to give better ultimate results, but it is still too soon to judge That prompt removal is the only proper treatment for purulent inflammation is at variance with the accepted principles for the treatment of all other organs except the vermiform appendix, and it, being functionally useless and prone to degeneration, did not offer a parallel case More careful study of these cases may show that a considerable part of them can be cured by evacuation of pus through natural channels, or artificially through the vagina, with or without the aid of celiotomy He reported two cases in which treatment on this plan had secured recovery

Dr I B Perkins, of Denver, reported a series of cases of "Hysterectomy for Fibroid Disease" In one case the growth was of five years' standing, the uterus measured thirteen inches, was as large as at full term, and weighed fifteen pounds

Meeting of the American Public Health Association at Denver Dr Henry Sewall called attention to the meeting of this Association to be held at Denver October 1 to 4, and urged the special interest that Colorado had in the success of the meeting

THE PRESIDENT'S ADDRESS

In the Annual Address Dr Work said, that of the sixteen who met to organize the Society in 1871, but five remained upon its rolls Since that time medicine had undergone a revolution There had been division and subdivision until the danger now was from excessive specialism The need of the day was the diagnostician, and there was danger of his being supplanted by the exploratory incision, and the post-mortem section The work lying nearest to this Society was the scientific study of tuberculosis Its opportunities for the scientific investigation of climatic influences were unequalled, and free facilities for bacteriologic diagnosis were offered to every physician in the State He urged the establishment of national sanatoria for the treatment of consumption, and suggested the appointment of a committee to confer with the coming meeting of the American Public Health Association, and memorialize Congress upon the subject His suggestion was adopted

After the final reports of committees, the election of members and officers and the installation of the newly elected President, Dr I B Perkins, of Denver, the Society adjourned

The social features of the meeting included a *conversazione* the first evening, a theatrical entertainment the second, and a banquet to the visiting members by the profession of Denver the third evening, who contributed their share to the success of the meeting

Proceedings of the Convention of Bacteriologists

Academy of Medicine, New York, June 21 and 22, 1895

The Bacteriological Convention called by the Water Committee of the American Public Health Association met in the Academy of Medicine, New York, at 10 a m, June 21, 1895 Over forty bacteriologists, representing prominent colleges and boards of health, were present when the meeting was opened by Major Charles Smart, U S A, Chairman of the Committee, who briefly explained the object in view as being the full discussion of certain points, the settlement of which was needful to enable the Water Committee to perfect a scheme of laboratory methods for adoption in a coöperative investigation into the bacteriology of water supplies Dr Smart then invited Professor Welch of Johns Hopkins University to take the chair and proceed with the special work of the Convention

It was evident from the program, Professor Welch said, that the subjects for consideration related almost exclusively to certain technical matters which must be settled before any cooperative investigation could be undertaken He suggested a strict adherence in discussion to the questions submitted, and called upon Mr Geo W Fuller, of the Lawrence Experiment Station, to contribute his views on the first question What method shall be followed in neutralizing all media and what standard degrees of reaction shall be adopted? Mr Fuller presented an able and interesting paper full of important results of original laboratory experiments He commented on the fact that although bacteriologists generally acknowledge the importance of the reaction of their culture media no special study has been given to the subject which remains now in practically the same condition as when first described by Koch fourteen years ago He then cited numerous instances of the sensitiveness of pathogenic bacteria to the reaction of media and of alterations in pigmentation, phosphorescence and morphology due to change in the degree of alkalinity He recommended phenolphthalein as an indicator with sodium hydroxid to effect neutralization, and for convenience and accuracy in expressing the acidity or alkalinity of a medium he approved of the chemic method of giving the number of cubic centimeters of a normal acid or alkali needful to effect neutralization per liter of the medium He had expermented also with various other indicators and had found that the neutral point of meat infusions, etc as established by litmus is many cubic centimeters on the acid side of the same point as established by phenolphthalein Thus so-called neutral solutions may in reality be very different varying as much as 25 c c normal acid or alkali per liter in some instances Mr Fuller's experiments showed that the best culture results are obtained when the medium is 18 c c per liter on the acid side of the phenolphthalein neutral point It will be observed that this solution is several cubic centimeters on the alkalin side of the litmus neutral point His directions to secure a standard alkalinity of medium are to determine in a small quantity of the liquid the number of cubic centimeters of normal caustic soda to be added to the stock to make it neutral to phenolphthalein and having added this to it then add normal hydrochloric acid in the proportion of 18 c c per liter The paper was discussed by Professor Welch and Drs Kinyoun and Theobald Smith, the general tenor being in accord with the views expressed by Mr Fuller as the result of his investigations

Discussion on the second question was opened by Professor Sedgwick, of the Massachusetts State Board of Health What effects on species differentiation are produced by the ordinary differences in composition of peptone, meat juice, gelatin, etc.? In the discussion that followed was embodied Mr Fuller's presentation of the third question What media shall be used for all species differentiation and how shall they uniformly be prepared" The relative advantages of meat infusion and beef extracts, agar and gelatin were considered Distilled water was generally accepted as desirable in making the media Dr Abbott was in favor of meat extracts in place of infusions, because the extract is taken in large quantities of all sorts and kinds of meat and comes nearer to representing a mean than any single sample of meat, moreover it is very convenient Dr Kinyoun objected to extracts particularly to Liebig's on account of its varying proportions of salt, he preferred veal infusion Dr Welch had never met with this difficulty and liked the extracts for routine work Mr Fuller and Drs Moore Cheesman and Johnston coincided with Dr Kinyoun in his preference of meat to extracts, and Dr Welch considered that the sense of the meeting was in favor of the infusions, for while instances of failure to grow in extracts had been brought forward, no one had instanced a failure in the meat infusions Dr Theobald Smith discussed the *propriety of adding* glucose and Dr Welch the quality of peptones and the character of the gelatins The jellies made from the latter varied much in acidity and the solidifying point was extremely variable Dr Sedgwick preferred hide gelatin because it was a better nutrient and clearer, although it liquefies at a lower temperature Dr Johnston, in reply to a question said it was impossible to get anything profitable from Iceland moss As to the relative value of gelatin and agar, the former gave as much in two days as the latter in four There was some difficulty in getting the proper degree of alkalinity, on account of changes taking place after it was put in the sterilizer, but he explained how this could be overcome Mr Fuller and Dr Sedgwick detailed their practice at Lawrence with agar and claimed better results than with gelatin The question of sterilization was then considered by Drs Abbott, Cheesman, Kinyoun, Welch, Mr Fuller and others The potato as a medium was objected to by Mr Fuller as inconstant in its results Drs Abbott and Welch sustained the cause of the potato The gas production is an important point and the presence or absence of discoloration Milk was considered of limited value as a medium by Mr Fuller, but many others believed that it would be a loss to give up its use, its coagulation and the development of acidity were valuable for differentiation The use of sterilized asbestos wool as a filtering medium was eulogized by one speaker The discussion ended by a consideration of the subject of preparing large quantities of medicine at one time and of making these available for use when required

The discussion of the second and third questions was unfinished when the morning session was ended by an adjournment until 8 P M It was resumed when the convention met again at the hour named

Professor Jordan, of the University of Chicago, who was on the program to open discussion on the fourth question What shall be the medium for and the conditions of the stock culture from which all media are seeded? was unavoidably absent, but Mr Fuller explained his views The keeping of stock cultures in an ice box also came in for consideration

Professor Sedgwick opened discussion on the fifth question What shall be the systematic detailed method to be followed in observing the results of cultures and the manner of recording them' If we take the results of any good bacteriologist and see how he describes his species fully and carefully with obvious attempt to be accurate in observation and full in report, we may learn how to do this Dr Cheesman thought it would be a good thing to have some kind of chart or a table on which the record could be made As pertaining to this branch of the subject, the paper of Prof L B Shuttleworth of University of Trinity College Toronto on the nomenclature of colors for bacteria, was presented This paper was an effort to get as near to precision as possible, in view of the different appreciation of color tints, shades and hues by different individuals The various primary and common colors were tabulated with their modifications, the qualifying words pale, light or medial and dark being used to denote gradations of the same hue

Dr Cheesman then submitted his paper on the sixth question What method shall be adopted by which full benefit may be derived from morphologic characteristics? He reviewed the main groups of cocci, bacilli and spirilla as subdivided by morphologic characters, shape, structure, size, formation of spores, flagella and capsule The greatest benefit may be derived from these characters only by having them fully developed and plainly visible For their development it may suffice to carry each species through a single routine method of cultivation on a standard medium, or perhaps two, or even three, routine methods Various methods of staining must be used The adoption of a systematic uniform plan to be followed in all examinations will lead to better results than have been obtained in the past The discussion on the subject was very animated and dealt with a standard *medium for morphologic characters or many* different media to exhaust all possibilities of development

The seventh question What tests shall be used for separating bacteria into clearly marked groups? was answered by Dr Wyatt Johnston, of the Provincial Board of Health of Quebec He referred briefly to twenty tests in common use and to various modifications of these He concluded that there was a certain want of individuality about the water bacteria as described by their discoverers which prevented the average amount of intelligence which he had at his disposal from grasping the subject in a way that would make a fellow feel that he had mastered it, and this was the result of the complication of these tests of bacteriologic classification He proposed a system of cataloguing and cross-indexing by which the labor of studying and looking into the affinities of species might be lessened This was favorably regarded by the convention, and he was requested to submit a practical outline of his system In connection with this subject, a paper by Prof H L Russell, of the University of Wisconsin was submitted This paper was special in its character, and related to the peculiar method of branching in the genus *Cladothrix*, found in stagnant waters The *C dichotoma* and the *C intricata* were described and figured These, although filamentous in their growth, are essentially bacilli The meeting then adjourned until 10 A M the following day

The convention was called to order at 10 A M, June 22, when Surgeon General Sternberg's paper was read by Dr Smart in the absence of its author This was on the eighth question What shall be the method followed in determining the relation of bacteria to temperature? General Sternberg discussed first the most favorable temperature for development, secondly, the extreme limits within which development occurs and lastly, the thermal death point The first and second are to be determined by culture experiments made at gradually increasing fixed temperatures until the desired information is obtained In ascertaining the thermal death point the temperature or the time of exposure should be fixed We may ascertain how long an exposure is required at a given temperature or how high a temperature is required in a given time He recommended an exposure of ten minutes to fixed temperatures, rising 2 degrees Cent in each experiment until the death point was reached This is determined by culture experiments showing the sterilization of the medium containing the bacteria operated on The cultures should be incubated for seven days before the result is recorded In applying heat to determine the death point the water bath was recommended, with the tube containing the bacteria and the thermometer on a glass stand at mid depth of the water The thermometer should be accurate and the temperature of the bath properly regulated When not otherwise specified the death point should be understood to refer to the temperature which in ten minutes' time destroys the vitality of all the cells in a liquid medium The spores of bacilli have a far greater resisting power to heat than the vegetative cells and the question of their thermal death point must be determined separately With spores which resist the boiling temperature it is best to state the time required for their destruction by a temperature of 100 degrees Cent The thermal death point depends to some extent on the age of the culture For bacteria which grow in our standard neutral flesh peptone solutions the use of a culture kept at 37 degrees Cent for forty eight hours was advised, and to secure uniform conditions 3 oese of the culture should be added to 5 c c of distilled water for the purposes of the experiment In his own practice, capillary tubes containing a small quantity of culture, not diluted, were used, but he considered that for general use it would be best to recommend the test tubes of hard German glass which are always on hand in bacteriologic laboratories, specifying the diameter of the tube and the quantity of fluid, 5 c c, which it should contain This subject was discussed by many of the members, the views of Dr Sternberg being generally accepted, but a strong tendency was manifested toward the acceptance of the capillary pipette instead of the test tube The importance of immediately cooling the tube as soon as removed from the bath was also insisted upon The recommendation was made to thrust it at once into the water so that the high temperature should cease to act upon it

The ninth question What special methods are of value in the isolation of pathogenic bacteria in water? was submitted for discussion by Professor Abbott of the University of Pennsylvania As to special methods of development, he held that there has been no general work done, nothing that would be of use to the working bacteriologist There are scattered observations relating to the typhoid bacillus and its isolation The degree of reaction is important and the method of injection into animals Mechanical separation, artificial filtration, fermentation and precipitation by coagulants were also discussed While on this subject, Dr Kinyoun described a standard dye method with fuchsin by which differentiation may be effected Commenting on this, Professor Welch considered it one of the most encouraging things that we had at last an elected method for the isolation of the cholera spirillum, but on the other hand it is a source of regret that we have no similar mode of procedure for the typhoid bacillus Dr Abbott stated his results with this bacillus to have been most inconstant The general feeling now, said Professor Welch, in regard to this matter is one of uncertainty as to whether any one has ever isolated the typhoid bacillus from drinking water Professor Sedgwick referred to an epidemic of typhoid fever at Providence, R I, where filters were sent to Professor Prudden This brought the latter gentleman to his feet with a smiling remark to the effect that we can not know what is going to happen in science during the next ten years, and that had he known that this convention would meet here to-day he might not perhaps at that time have considered typhoid as emanating from the invisible growth on potatoes Professor Welch referred to an impression existing, especially among boards of health, that bacteriologists are expected to report whether or not the typhoid bacillus is really present Dr Hewitt of Minnesota, referred to the positive diagnosis of typhoid bacilli that had been given to boards of health by bacteriologists and considered that the preceding remarks were somewhat discouraging Dr Sedgwick acknowledged that so far as pathogenic bacteria in water are concerned we are unable to make the positive diagnosis which Dr Hewitt desired It seemed to him, however, that if this were the only thing that boards of health in their history had to take back water on it would be well to discourse largely on it, but there are various things boards of health have had occasion to regret that they have done and he did not see that this was any greater than the others He knew Dr Hewitt had been misled by not keeping on tap in his office a good bacteriologist Dr Benjamin Lee of Pennsylvania, thought on the whole that it was a good thing that we are tending toward the solution of the broad problem of the various drinking waters rather than of one particular pathogenic organism, and this brought the convention back to its special work

Professor Welch then presented his views on the tenth question What shall be the mode of procedure in determining the pathogenesis of bacteria found in water? He spoke of the propagation of cholera, typhoid fever, dysentery, etc, by water There is no satisfactory evidence of the spread of malaria by drinking water although there are those who believe in this infection The pathogenic properties of water should be tested as a routine procedure He preferred bouillon cultures of forty-eight hours, 1 c c injected by means of an ordinary hypodermic syringe into the peritoneal cavity of a mouse The probability of a negative result is great, and if the mouse does not succumb the chances are that a larger animal would not All biologists should insist on a more careful pathologic study of lesions as they are often of the greatest interest Bacteriologists are apt to consider an organism as pathogenic only when it kills, yet animals are frequently made very ill from certain species of bacteria and yet recover Sharp distinction should be made between infection and intoxication The discussion was general At its conclusion Drs Sedgwick and Welch referred to the need for care in the language used in reporting experiments on animals The latter cited the expression of a writer "I now see that these experiments were of no use and really appear to me absurd," which was caught up by the Humane Association and used for a violent attack on pathologists in a pamphlet recently issued

The paper of Professor Adami of McGill University, treated the eleventh question How is variability of species to be regarded? The difficulty of the subject of differentiation was clearly stated Experimentally in the test tube it is a matter of comparative ease to so vary the properties of bacteria that were one to be given the modified forms, without any information as to the previous treatment undergone by them or their predecessors, it would be impossible by the ordinary methods employed for the differentiation of species, to arrive at any other conclusion than that we were dealing with a form of microbe totally distinct from the parent species, in fact, with a totally distinct species If this be true of experimental modifications, how are we to become assured that many of the closely allied forms which we encounter in the bacteriologic study of water, air, soil and cases of disease are truly distinct species? How can we protect ourselves against a multiplication of described species, as unwise and depressing as it is scientifically false? We know from experiment that comparatively slight changes in environment acting over a long period impress modifications on bacteria quite as surely and strongly as do great alterations acting for a short time We know that time after time in the study of the bacteria of water, as in those of disease, we encounter forms which while in general harmonizing, depart in some particulars from the classical description of well recognized species We are becoming hardened to the departure from type of some of the pathogenic species, so much so that the tendency among those dealing with the bacteriology of disease is to regard closely allied forms possessing pathogenic properties of like nature, not as separate species but as races and varieties of a common stock This may not in itself be scientifically accurate for in most cases no attempt is made to demonstrate the relationship Nevertheless, to take the opposite view and regard each form that departs in any particular from the text-book description as constituting a separate species is to drop into a bacteriologic Babel of confusion

Professor Adami then referred to the varieties of domestic animals and plants and to their tendency, if permitted to return to a state of nature, either to die out or in the course of a few generations to regain largely or entirely the characters of the original stock With bacteria the same is to a great extent true, and he suggested as a means of discrimination, the method of keeping doubtful forms under observation for some months upon standard media If allied forms be grown on ordinary media which have not been prepared with a view to accentuate differences, the effects of the continuance of a common environment will eventually remove those characteristics which are temporary impressions due to previous modified environment, and in the course of a few weeks or months, forms that are varieties will revert to type He recommended that each describer of a new species be expected to report its condition at the end of a year, and whether it has reverted to type or has continued to present characteristic differences

Dr J J MacKenzie of the Board of Health of Ontario opened discussion on the last question What new methods can be suggested for the separation of bacteria into groups and for the identification of species? He referred to the advantages to be derived from the use of synthesized media He pointed out the variability and the unknown chemic composition of the media now in use Beef broth is an unknown quantity, and the composition of peptone is variable Practically, the bulk of the material of the commercial peptones consists of albumoses of various kinds Witte's peptone which Kühne found to be the most satisfactory is almost entirely made up of albumoses Gelatin and agar also are variable, but as solidifying agents we can not do without them Dr MacKenzie then sketched the history of the effort to obtained synthesized media, giving the methods of preparing many of them and the results obtained from them He then detailed his own experiments in this line particularly in plate cultures of water bacteria He touched also on the advantage that might be taken of Beyerinck's respiration figures and of the formation of nitrites and hydrogen sulphid in the study of water bacteria He concluded that in the study of all these physiologic chemic reactions of bacterial cultures the necessity of exact chemic composition is absolute otherwise it is impossible to make comparisons With a chemically pure medium synthetically formed we can speak with definiteness of the formation of nitrites ammonia hydrogen sulphid or any of the other products of bacterial life

In connection with this, Dr V A Moore of the Bureau of Animal Industry, submitted a paper on the nature of the flagella and their value in the systematic classification of bacteria The author dwelt first on the difficulty of obtaining constant and uniform results by any of the methods heretofore devised for demonstrating the filaments, and then on the impossibility of making a classification by the filaments agree with our present natural grouping The *Monotricha* for instance or those having one flagellum at the pole of the bacillus would include bacilli spirilla and at least one micrococcus Certain of his experiments have demonstrated that in the grouping of pathogenic organisms the flagella have little or no significance Differences in the motile filaments of the same species of bacteria are quite as great as those found to exist in preparations of various species, thus the flagella of the hog cholera bacillus differ in different preparations and often in different fields of the same preparation quite as much as they differ from the flagella of the typhoid or colon bacilli Until the nature of the flagella producing substance is better understood, the only significance which can be given to these appendages in classifying bacteria is to determine their number on the individual organism their length, general appearance and peculiarities and include such data in the morphologic description of the bacilli

In the course of the proceedings of the previous day it had been decided that no vote would be taken on any of the questions but that the whole series would be referred to a committee of five, the chairman to be one of the members After the discussion of the twelfth question, Dr Prudden moved that the committee be increased in membership to eight As the success of the convention will depend on the decisions of this committee, he considered that it would be better to have more members on it This was agreed to, and the Chair appointed Drs Abbott, Adami, Cheesman, Fuller, Sedgwick, Smart, Smith and, at the request of the convention, Welch, the committee to report to the Water Committee of the American Public Health Association which will endeavor to secure the publication of the proceedings of the convention and of the future report of its committee by the Association

After some discussion on the advisability of forming an Association of Bacteriologists to insure a recurrence of meetings like the present, Dr Welch stated that he considered the meeting a success The interest shown in it by the large attendance and the presence of so many members from a distance have been most encouraging and clearly point to the formation of some society in the future which will bring together the men of mind and ability and which will be the means of continuing this work He offered a vote of thanks to Drs Smart, Adami, Fuller and Johnston who were responsible for the inception of the meeting Dr Prudden, on behalf of the convention, expressed indebtedness to the chairman for his skill and kindliness in conducting the meeting Dr Smart, on behalf of the Water Committee of the American Public Health Association, rendered acknowledgments to the Academy of Medicine for the pleasant quarters afforded the convention to Dr Cheesman, of the College of Physicians and Surgeons, and Dr Ferguson, of the New York Hospital for having acted as a local committee of arrangements and made things easy for the management, to Dr Welch for the able manner in which he had conducted the special work of the convention, and lastly, to the members for their earnestness and interest in the business of the meeting

The convention adjourned *sine die*

SELECTIONS

Carcinoma of the Uterus—(*Charité Annalen*) 557 cases were treated at the Charité from 1883 to 1893 The majority were from the fourth and fifth decades of life (30 5 and 39 8 per cent) while Winckel finds the larger number between the ages of 50 to 55 years (22 3 per cent), the statistics of the Charité divide the most in about equal proportion between the three periods of five years from 35 to 50, and also transfer them from the climacteric back into the period of maturity As an explanation of this, it is noted that the cases are derived from the poorest classes of the population Total extirpation in 80 cases 15 4 per cent and 18 in women under 41 years 51 were still menstruating, 21 in the beginning of the climacteric 10 in menopause which on the average began at 47 0 years Of 528 cases furnishing trustworthy information 28 had never borne children, of the remaining 500 106 (21 2 per cent) had borne 1 child 227 (45 4 per cent) 2 to 5 children 167 (33 4 per cent 6 to 16 children, while among Winckel's 130 cases of carcinoma, only 10 per cent had borne 1 child, 40 8 per cent 2 to 5 children, and 49 2 per cent 6 to 16 children In 16 cases the disease started just after a delivery or during pregnancy and in 12 of these the disease was more or less directly the cause of abortion, while all took a rapid course, and 10 were inoperable —*Centralblatt für Gynakologie*, No vi Feb 9, 1895

A Case of Gunshot Wound by the New Swiss Ordnance—Dr Brunner (*Korrespondenz blatt für schweizer Ärzte*, 1894, No vii) reports a case of gunshot wound by the new small caliber weapon, model of 1889, distance 20 m The shot first penetrated and tore in pieces the cover fitting firmly over the barrel It then pierced the front of the coat, vest and shirt, making a round hole through these pieces of clothing, as if by a punch, penetrated the body 3 cm below the left clavicle in Mohrenheim's (infra clavicular) fossa, left the body below the spine of the scapula and produced three radiating rents in the clothing on the back Wound of entrance circular as if struck with a punch of the diameter of the missile Wound of exit circular with sharp edges, 10 mm in diameter, surrounded with a livid, swollen area Lung uninjured The course grazing the tip of the coracoid process, passed close over the collection of nerves and vessels into the scapula, which was pierced 2½ cm below the spine Wound healed kindly, although not aseptic No subsequent hemorrhage This case shows typically the result of small caliber shot Although the projectile in boring through the gun cover certainly lost considerable in energy it was able to penetrate the body in a confined course without causing further harm by the way, without injuring nerves and large vessels though in close proximity and without splintering the scapula —*Centralblatt für Chirurgie*, No iii, Jan 19, 1895

Pathologico anatomic Researches on the Method of Extension of Cancer of the Uterus.—(Seelig, Inaug Diss , Strassburg, July, 1894) This work contains painstaking macroscopic and microscopic investigations The conclusion of most practical importance is, that one must no longer be satisfied with supra vaginal amputation, but he must always perform total extirpation if the disease has only started in the cervix, for even at that time the body of the uterus may be affected The writer distinguishes carcinoma of the cervix and of the body, carcinoma of the cervix extends by the lymph channels, by preference those accompanying the blood vessels, and in those situated in the outer muscular layer and on the boundary of the peripheral and middle layers There is a connection between the lymphatics of the cervix and the body, which lies within the wall of the organ and is represented by the lymph channels accompanying the large blood vessels of the middle and external muscular layer These channels have a relatively large caliber In the body of the uterus the lymphatics of the inner and of the larger part of the middle layer are very small, those of the outer of larger caliber Carcinoma of the cervix does not remain limited to the lower portion of the uterus It passes the internal os, not usually in the mucous membrane, but in the external muscular layer Therefore it is hardly tenable strictly to retain the term, carcinoma of the cervix 2 carcinoma of the body grows relatively slowly, and is marked by a centrifugal increase Participation of the lymph vessels is first evident between the middle and outer muscular layers The cervix is affected only after a longer existence of the disease in the body Its wall is destroyed from within out, the outer layer remains long intact, also the vaginal mucosa —*Centralblatt für Gynäkologie*, No vi, Feb 9, 1805

Pathology of Rickets —(Jahrbuch fur Kinderheilkunde Bd xxxvii, Hft 2) The writer assumes with Kassowitz that even the slightest elasticity or yielding of the bones of the skull or along the sutures is to be regarded as the surest and most undoubted sign of an active rachitis His observations on 338 healthy children during the first two years of life show

1 The average size of the anterior fontanelle during the first three months is 2 71 qcm (42 sq in) and it decreases constantly in the succeeding months The rate of diminution becomes much faster in the second year

2 The largest anterior fontanelles, met with in children without rachitic changes in the skeleton during the first year, measured 3qcm (465 sq in) This was rarely found Quite probably such cases are to be looked upon as the starting point of rachitic affections At least, fontanelles of this dimension are found far more frequently in connection with evidences of craniotabes the rickety rosary, etc , than under normal conditions

3 The complete closure of the fontanelles rarely occurs before the tenth to the twelfth month, and usually in normal children in the course of the second year, though it was found in 20 per cent in the thirteenth to fifteenth month and in 75 per cent in the nineteenth to twenty first The variations in the size of the anterior fontanelles, in perfectly normal children of the same age, are in the opinion of the writer, merely natural differences in the growth of the skull Fontanelle measurements in 786 rachitic children showed 1, the anterior fontanelle was decidedly larger than in normal children (up to 14 8 qcm 2 294 sq in), 2, it does not diminish constantly from birth, but increases gradually up to the ninth month, becomes smaller in the three succeeding months, yet does not reach its original size, and only after the beginning of the second year is a constant diminution to be observed Yet even in the second and third years anterior fontanelles are found, measuring 25 qcm (3 875 sq in), 3, the closure of the anterior fontanelle is delayed until well into the third year All details may be obtained from the original —*Centralblatt für Gynäkologie*, No 6, Feb 9, 1895

NECROLOGY

Albert C Gorgas, M D , Medical Director of the United States Navy, died of heart disease at his home in Germantown, a suburb of Philadelphia, June 29 He was a native of Philadelphia and was graduated from the Jefferson Medical College in March, 1856 He entered the United States service, August 30 of the same year, as Assistant Surgeon, being assigned to the sloop-of-war *Germantown* He served on the East India Station, from 1857 to 1860, and was then transferred to the receiving ship *North Carolina*, at New York In 1861 he was commissioned Surgeon and was attached to the *Vandalia* of the South Atlantic squadron until 1863 After serving a year at the Norfolk Naval Hospital, in 1864, he joined the *Juniata* of the South Atlantic blockading fleet He was present at the bombardment and taking of Fort Pulaski and the assault on Fort Fisher In 1867, Dr Gorgas sailed on the *Brooklyn* as Fleet Surgeon of the Brazil squadron Shortly afterward he was assigned to the Portsmouth Navy Yard From 1870 to 1873, he was stationed on the *Wabash*, as Fleet Surgeon to the European squadron He was on duty at the Naval Hospital, Annapolis from 1873 to 1877 and went to sea for the last cruise in 1879, as Fleet Surgeon of the South Atlantic squadron on the flag-ship *Hartford* He was stationed at the Naval Academy in 1880, at the Chelsea Naval Hospital, 1882 to 1885, President of the Examining Board, 1885 to 1889, Naval Hospital, Philadelphia, 1889 to 1893, National Museum of Hygiene, Washington, from 1893 until recently He was commissioned Medical Inspector Oct 6, 1873, and Medical Director March 4, 1884 He leaves a wife, a daughter and two sons, the latter being Miles Gorgas, who holds a prominent position in the United States Navy, and the Rev Henry Gorgas, who is assistant rector at a New York Protestant Episcopal church

Joshua Green Wilbur, M D , of Brooklyn, died at his summer home in Montclair, N J , on June 25 He was born in Massachusetts on Sept 25, 1825, the son of Hervey B and Anne Tappan Wilbur Two of his brothers, as well as himself, followed the profession of medicine His eldest brother the late Dr Hervey Wilbur of Syracuse, was the first man to adopt a practical system of education for the feeble-minded children and for years had charge of the State asylum for those unfortunates Another brother, Dr Charles T Wilbur, devoted years of study to the same affliction and is now superintendent of the Michigan State Asylum for the feeble-minded at Kalamazoo He was graduated from the Harvard Medical College in 1862 Soon after the breaking out of the war he went to the front as a surgeon with a Massachusetts regiment Throughout the struggle Dr Wilbur attended to the wounded on the fields and in the Union hospitals At the close of hostilities he settled in Brooklyn and engaged in general practice for about five years Then he decided to make a specialty of life insurance examinations For about twenty-five years he was engaged, chiefly in New York City, as the medical examiner for such companies as the Mutual Benefit, Washington Life, Berkshire Life, New England, Ætna, Mercantile Benefit and Penn Mutual Life Insurance companies and medical director of the New York Jewelers' league He was reputed to have examined more applicants for life insurance policies than any other physician in America and, perhaps, in the world The cause of his death was paralysis, from which he had been failing for about three months

Edward Spalding, M D , of Nashua, N H , who died June 24, in his eighty-first year, was better known as a capitalist and cotton-spinner than as a medical man He was, however, a graduate of the Harvard Medical School in 1837 He was a graduate in arts at Dartmouth College and afterward for a time one of the board of trustees

George Taylor Robinson, M D , of Camden, N J , died June 28 He was a graduate of the University of Pennsylvania in the class of 1882 and a member of the staff of the Cooper Hospital of Camden, and is reported to have given special attention to the application of the spectroscope to clinical medicine

Alexander I Aronson, M D , of New York City, died suddenly June 25, from apoplexy He was a native of Germany, and a graduate from the University of Jena in 1879 About a year later he settled in New York and soon became known as one of the most popular physicians of the East Side He leaves a widow and three children He was a member of the German Medical Society of that city

George Garmany Larcombe, M D , died June 28, at Savannah, Ga , aged 34 years He graduated from Princeton College in 1882, and from Bellevue Hospital Medical College three years later He was ambulance surgeon at Bellevue Hospital in 1885 and on the surgical interne staff, Third Surgical Division, in 1887 He thence went to the University of Vienna, but in 1888 enrolled himself at the King's College School in London and in the same year took the degree of M R C S E When he returned to this country he took up his residence at Savannah, engaging in general practice

E R Palmer, M D , of Louisville, July 6, aged 53

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SATURDAY JULY 13, 1895

THE SURGERY OF PIERRE FRANCO

The learned NICAISE, who through the press of FELIX ALCAN enriched modern surgical literature by translating the great surgery of GUY DE CHAULIAC, and the surgery of HENRI DE MONDEVILLE, has recently brought out the surgery of PIERRE FRANCO Thanks to NICAISE, we can now view French surgery continuously from DE MONDEVILLE down to modern times It is true DE MONDEVILLE and DE CHAULIAC were under the impress of THEODORIC and the Arabian school, but in many directions they were original, and without doubt these were the real founders of the French didactic school, and with the later labors of FRANCO and PARÉ its distinctive character was completed That PARÉ distanced FRANCO in the race for recognition by immediate posterity was due quite as much to the political changes of the time, and accidental circumstances, as to any intellectual supremacy

The intolerance of the period of FRANCO is well illustrated by the story told by NICAISE of BRISSOT, a young doctor of the Paris faculty who, in 1514, proposed to practice bleeding on the same side in which the pain was located, and cited GALEN as his authority Although BRISSOT was sustained by the Paris School, his doctrine was struck by the anathema of the School of Salamanca, which decided that it would not permit a patient to be bled for a pleurisy on the side in which the pain existed The practice was denounced as impious, and its adherents were branded as the "Lutherans of Medicine" CHARLES THE FIFTH issued a decree which defended the old-fashioned bleeders—that is to say, those who bled on the opposite side of the disease "Nevertheless," says NICAISE, "GALEN triumphed, but in the end bleeding was practiced indifferently on one or the other side" FRANCO adopted the doctrine of BRISSOT and always counseled that the operation be performed on the side of the disease

FRANCO used the incandescent knife in amputations, but like all those of his time ignored the dictum of DE MONDEVILLE that "suppuration of wounds was a pathological accident and not a necessary condition" FRANCO was born at Turriers in Provence about the year 1500 and died about the year 1561 His operations on hernia, and on stone in the bladder were his most distinctive ones

THE DEATH OF HUXLEY

THOMAS HENRY HUXLEY, the eminent English naturalist, died June 29, aged 70 years He was in his twenty first year when he took his M B degree at the University of London, after having studied three years at the Charing Cross Hospital Medical School, he took second honor in anatomy and physiology In 1846 he joined the medical branch of the Royal Navy, serving first at the Haslar Hospital, and afterward as assistant surgeon on H M S, *Rattlesnake*, during its four years' voyage to the South Pacific In 1853 he resigned from the Navy, to become the professor of natural history in the Royal School of Mines From that point in his life, when not quite 30 years of age, his course as a scientific investigator and teacher, especially in the field of zoology, became fixed

The papers that he wrote *from the Rattlesnake*, embodying the results of his studies, remained unpublished for some time, because the Admiralty refused to contribute anything toward the expense, and his pay as assistant surgeon was but seven-and-sixpence a day So it was not until 1859 that the essays saw print They were published then by the Royal Society

After the first struggle, HUXLEY's rise to eminence was steady and rapid, until he became one of the foremost scientific men of the century He had returned to England in 1850 In the following year he was made a Fellow of the Royal Society, and the next year he received one of the two medals that the society awards annually

HUXLEY and TYNDALL, before they became famous, applied for the chairs of natural history and natural philosophy in an American university, where they hoped to work together, but other men, supposed to promise better work, were chosen

As an estimate of the status of PROFESSOR HUXLEY in the scientific world, the following editorial from one of our daily cotemporaries may be set down as just and fair

"By the death of PROFESSOR HUXLEY at Eastbourne England has lost one of her greatest scientific inquirers HUXLEY's name will stand with those of TYNdall, Darwin and Spencer at the head of English science of our generation His views on the relation of science to religion and his attacks on revealed religion caused endless controversy, which has been oftentimes renewed during the publication of his collected works But his true fame was based on his work as a scientist, pure and simple, and as such he will be honored in the annals of scientific research and literature "

"MEDICINE AND CRICKET"

A medical man in England has achieved fame by his mastery of the national game of cricket and the London *Daily Telegraph* recently started a shilling subscription to provide "a great national testimonial" to his success Among the subscribers we find the following in a recent issue of the *British Medical Journal*

Mr Ernest Hart	100	shillings
Dr Bridgewater	20	"
Dr Isambard Owen	20	
Dr Dawson Williams	20	'
Mr Francis Fowke	20	"
Mr Burr	20	'
Sir T Spencer Wells	20	"
Dr R Temple Wright	5	"
W E Soffe	5	'
Mr H Langley Brown	21	"
Dr R Shingleton Smith	21	'
"Nemo"	10	
Compositors of the *British Med Journal*,	14	"
Clerks at the *British Med Jour* office	10	"

Our valued contemporary, the *Medical News*, makes this Grace testimonial fund the occasion for a timely and telling exposition of "Professional Indifference to Professional Enemies" in this country, and compares the subscriptions to the cricketer in England, with those received to pay the expenses and to publish the report of a trial—"the economic, social and professional importance of which is simply incalculable" "Besides the illustration cited," says our contemporary, "none could be more striking than the present professional disregard of the splendid work so modestly, bravely and effectively carried to a successful issue by Dr James E Reeves in his fight with the Amick Company A large number of State and national societies have met since Dr Reeves' noteworthy victory, and not one of them by any public action has so much as alluded to it As we write the advance sheets of the report of the trial are before us We have read them with delight, and wish once again to arouse in the minds of the medical men of the United States a sense of their obligation to the good men engaged in this trial—the defendant, the attorney, the judge and the jury It even yet seems marvelous, in our quack-ridden land, that such a result should have been brought about Every physician should read the interesting story as related in the report, in the satirical letter of Dr Reeves, the charge of the judge, the arguments and declarations and, especially, in the specious logic of the plaintiffs' attorney, so redolent of popular error and demagogism We regret that we can not republish the entire pamphlet in the *Medical News*, but we regret far more the inertia of professional sentiment that is shown in the subscription of but fourteen men, amounting in all to the magnificent sum of $141 "

Following is the list of the fourteen subscribers, which we produce to contrast with the similar list above given

Dr, George M Gould	$10 00
Dr D L Page	1 00
Dr N P Dandridge	10 00
Dr P S Conner	10 00
Dr F Forchheimer	15 00
Dr John A Murphy	5 00
Dr A B Richardson	5 00
Dr J F Baldwin	5 00
Dr J H Kellogg	5 00
Dr A Vander Veer	35 00
Messrs William Wood & Co	25 00
Drs Davis & Davis	5 00
Dr John B Hamilton	5 00
Dr R J Trippe	5 00

The total thus subscribed for the Reeves fund is, as already stated, $141, that for the English cricket-player is nearly $10,000 The Journal heartily indorses the sentiments of the *Medical News*, and urges every member of the American Medical Association to send his subscription of at least 50 cents to Dr Reeves for a copy of this report

In relation to the Amick "Cure" it is interesting to note that Mr S G Sea, whose certificate of having been cured of consumption by this nostrum and who was at one time business manager, or advertising manager, or something which placed him in official relations with the Amick Company, recently died of consumption, from which he had suffered for several years His was a case of fibroid phthisis, with the usual history of improvement and relapses running through five or six years, and several times during that period, before he fell in with this concern, he supposed himself cured of the disease Indeed, at the time he began to take their treatment he asserted that he felt well, but the physical signs caused his physicians in Chicago to recommend him to change climate A short time after this recommendation, his circular letter claiming to be cured began to be sent broadcast over the country

MICRO ORGANISMS IN THE HEALTHY NOSE

Among the interesting facts we owe to bacteriology is the discovery that so-called healthy persons are the lodging places of myriads of bacteria, powdering their skins, dwelling in the cavities and orifices of the body, mouth, nose, throat, intestines, etc Taking the nose, we should expect to find a large number of microorganisms in its cavities, both from its anatomic construction and its function It is calculated that 500 litres of air, bearing on a low average 1,500 bacteria, are inspired every hour[1] These microbes of the healthy nose have been investigated by Hajek,

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[1] Lancet, June 1, 1895

Lowenberg, Frankel, von Besser, Paulsen, St Clair, Thomson and Hewlett, among others

A great diversity of opinions are arrived at by these observers, the first two, as also Thomson and Hewlett, found a scarcity of bacteria in the nose, while the others all found a greater or lesser number Some found a number of pathogenic organisms such as the erysipelas coccus—one in every five healthy individuals) and Frankel's coccus—one in every four cases Weibel has cultivated a comma bacillus from the nose Welch[2] points out that capsulated bacilli are among the interesting features of nasal bacteriology The ozena bacillus of Abel closely resembles Friedlander's bacillus, but it is not certain yet whether it is found in the healthy nose Paulsen made sixty-four cultures from the noses of twenty seven healthy persons, eleven of these were sterile, the rest, fifty-three, furnished colonies, cocci were more frequent than bacilli, pathogenic bacteria were only observed in one normal case, and in this the streptococcus pyogenes was found

A recent paper by Thomson and Hewlett[3] seems to account for these diverse results These authors examined thirteen healthy cases and examined the vestibule of the nose and the mucous membrane separately From the former, twenty seven cultures and thirty-four cover-glass preparations, and from the mucous membrane seventy six cultures and thirty-four cover-glass preparations, were made No attempt was made to differentiate the organisms, it was only sought to determine the presence or absence of bacteria The authors arrive at the following conclusions 1, the vestibule is lined with skin furnished with hairs and with sudoriferous and sebaceous glands, and is not part of the nose cavity proper—only leading to it, hence, in bacteriologic examinations of the nasal fossæ a distinction must be made between the vestibule and the mucous cavity proper, 2, contamination from the lining of the vestibule is difficult to avoid, even when this source of error is realized, 3, in the dust and crusts of mucus among the vibrissæ of healthy subjects microorganisms are never absent—as a rule they are abundant, 4, on the Schneiderian membrane the reverse is the case, since in over 80 per cent of the cases no organisms whatever were found and the mucus was completely sterile, 5, the occurrence of pathogenic organisms on the Schneiderian membrane is quite exceptional

While the number of individual cases in these researches is hardly large enough to be conclusive, still, if they are corroborated, it would seem that nearly all the microbes of inspired air are arrested either by the moist surface and the vibrissæ of the vestibule, or that, as has been already claimed by Wurtz and Lermoyez, the nasal mucus is germicidal

THE PHYSIOLOGY OF SLEEP

The suggestions from the later discoveries in the minute anatomy of the nervous system seem inexhaustible Not only has the conception of the neuron modified all our ideas of nervous physiology and pathology, but we now have the protoplasmic neuroglia extensions also bearing a part in the newer theories of the mechanism of the nerve centers Not long since, M Duval offered a theory of sleep, according to which the nerve cells drew in their processes during slumber, as some flowers do their petals, basing himself in this, on the observation of certain lower organisms, in which he thought he had discovered amœboid movements of the nerve cells His priority in this theory has been contested by Lepine (of Lyons) but inasmuch as no one has yet seen these amœboid movements in the nerve cells of higher animals, it can only pass as an ingenious hypothesis

At a recent meeting, however, of the Anthropological Society of Paris, M Azanlay called attention to some suggestions in this direction by Ramon y Cajal, one of the investigators to whom we owe the most in the striking discoveries in neural anatomy He remarks that no matter how we kill an animal, whether by shock, strangulation, or anesthesia, we never find evidence of any amœboid movements of the prolongations of the nerve cells His attention, however, was attracted by the phenomena presented by the neuroglia cells under the same conditions These have numerous prolongations, some of them have very fine hairlike ones, and his theory is that these, endowed with amœboid movements, contract in the waking state, and extend themselves during sleep In the former condition they permit the prolongations of the nerve cells proper, to come in contact with the end brushes of the neuron and to thus permit the conduction of the nervous influence In the extended state, on the other hand, they isolate the nerve cells and thus interfere with conduction

Around the capillaries and vessels we find a great number of these cells, and when they contract the vessels are enabled to dilate, the blood circulates freely and the nerve cells are excited to activity In this way we can explain the effects of attention or concentration of the mind on a subject, as well as account for the phenomena of sleep

As M Azanlay says, this theory, however much it may seem probable or take the fancy, is only as yet an undemonstrated hypothesis The physiology of sleep is a very complicated subject, and any theory that has yet been advanced is open to many objections, some of them hard to meet The same is true even to a still greater extent as regards the phenomena of attention and mental activity, and every attempt at explanation only opens up new questions that still remain for solution This theory of Ramon y Cajal has the advantage of appearing an almost ultimate mechanical explanation, which would still remain to be given with any chemical or other theory, and it has also the prestige of having been offered by one who is, as yet, one of the most successful investigators and discoverers in the finer anatomy of the nervous system

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[2] Dennis System of Surgery I 262
[3] Lancet June 1 1895

GLADSTONE'S VIEWS REGARDING MEDICINE

The great ex-Premier of Great Britain has frequently expressed his high appreciation of medical men and their honorable walk in life, but he has seldom said anything more memorable than in the sentiments given below The article from which we quote, purports to be a sketch of a great physician—the late Sir Andrew Clark—who was for nearly a quarter-century the family physician of the author It is such a loving tribute as the worthy statesman is well capable of making, but it is something more and higher It is a philosophical statement of the social rise and progress of medicine The antiquity of the profession is admitted and it is placed farther back in the vistas of time than our own writers commonly aver, and the progressive exaltation of medicine among the avocations of life is both outlined as to the past and predicted for the future Is it true—can it be true—that medicine is destined to outstrip in the social race those haughty competitors, law and theology? It may be, and if Gladstone's philosophical insight is correct this will be its future position—the peer if not the superior of the other two

The concluding paragraphs of Mr Gladstone's sketch, which we quote from the *Youth's Companion*, June 27, are as follow

"It was a common but it is probably now a vanishing practice, to speak of medicine, the law, and the church, meaning the sacred ministry, as the three learned professions The three are probably of equal antiquity, but not of equal antiquity with anything like equal eminence The primitive physician probably survives in the herbalist He pursued his profession, as it were, underground, while the priest and the judge were originally to be found in the sovereign, or a little later perhaps in prominent and weighty members of society

"Though there are isolated names of distinction associated with medicine, the doctor as such was the object of ridicule as well as, perhaps not less than, of confidence

"It is needless to say that the state of things which made ridicule possible has passed away as completely as have the ecclesiastical conditions described in the opening verses of Hudibras, and the period

'When pulpit, drum ecclesiastick
Was beat with fist instead of a stick.'

"The physician has still this note separate from those of the lawyer and the clergyman They are, at least in the country where I write, both of them largely endowed by the nation, whereas the physician or surgeon *receives little public money*, and that by the piece, or with a strict reference to work done, a circumstance which has not prevented a rise in their professional emoluments and in connection with all but the poorer classes of society, within the last hundred years or little more, greater, I apprehend, than has accrued in either of the other cases

"It is not, however, emolument, but something higher and subtler by far, that I have now in view, namely, *influence* The immense advance of knowledge and care in the training of medical men has of itself operated largely in opening to them the interior of families, and an access to personal confidences But also time has been upon their side When gold was first discovered, says Horace,

'macies et nova febrium,
Terris incubuit cohors'

"In this simple utterance there is a broad and comprehensive meaning. The increase of wealth signifies the multiplication of enjoyments without any corresponding advance in conscientious motive, or in prudential restraint

"Other causes coöperate with those I have already named—such as the change in communication between man and man, from slow to rapid, and from rapid in many cases to instantaneous All I have said seems to imply new sensitiveness and complex developments of the nervous system, answering to a condition in which we live so fast, and even while making life more and more luxurious, we abridge the first and most innocent of all luxuries, and deny nature her repose

"The physician had always to use his eyes, and now he has to use them more largely, more sharply than ever But in our day he has, and in the coming day yet more will he have, to use also his ears He becomes, and he must become increasingly, the recipient of the confidences of the family and the individual He has *a kind of priesthood* to exercise as he grows in acquaintance with the secrets of the heart

"He must, whether he will or not, in the higher circles of his profession, find himself invested with a sacred guardianship of purity and integrity for the soul, as well as with purveyance of health for the body, as the connection and interaction of the two come to be more intricate If he declines this guardianship, the alternative is that he will aid relaxation, and will abet corruption"

GEORGETOWN MEDICAL COLLEGE, WASHINGTON, D C

It is with pleasure we note that this college has had the courage to break away from the custom which has heretofore prevailed at the National Capital, of having night sessions The Georgetown Medical College will hereafter be a day school, and there can be no question but the change will not only meet with the approbation of the clientelage of the school, but the friends of higher medical education everywhere, who have always noticed with regret that the medical colleges in the capital of our country were simply night schools, for the most part dependent upon Department clerks, necessarily otherwise engaged during office hours That many good men have been graduated at these schools everybody knows, but their success has been achieved in spite of the handicap

CORRESPONDENCE

Prophylaxis of Paludism

New Castle, Colo, July 1, 1895

To the Editor—Under this caption, in the last number of the Journal, is a quotation from Noel Any prophylaxis with the oft applied agent, quinin, belongs rather to the field of practical medicine than hygiene Those who adopt the old time theory of malaria swamp poison, or the more recent one of micrococci-malaria, until they have arrested the beneficent action of the sun rays that carry the waters of the ocean to the "dry and thirsty land," or destroyed the microscopic entities that abound in all paludal regions will probably find in medication with anti periodics their chief prophylaxis

Wherever evaporation is abundant there will be hot days and cool nights, with the enervating and chilling influences of dampness During the chill of night there will be contraction of the capillaries of the periphera and consequent hyperemia, with engorgement and congestion of central organs, followed, soon or late, by more or less pronounced chill febrile reaction and diaphoresis, the physiologic and pathologic expressions of thermometric and hygrometric environment A simple and rational prophylaxis will readily suggest itself to those who are not wedded to the old ruts, and who do not go "round Robin Hood's barn" to find causation If, instead of wooing the cool and chilling air of night in the garb of fashion, or going to sleep in the damp clothes worn during the day and half covered those living in such localities would pay due regard to ordinary hygienic laws and take a friction bath, damp or dry as night approaches, put on dry warm clothing and sleep between flannel blankets, they may laugh to scorn both the marsh poison and pathogenic germs of even the lagoons of Hindostan, or the swamps of Louisiana

W J Schenck, M D

"Audi Tertiam Partem"

San Francisco, Cal July 1, 1895

To the Editor—In the June 29 issue of the Journal, on page 1021, under the head of "A Question of Translation," Dr G A Aschman, of Wheeling, W Va takes the liberty to so construe the latter part of my communication of June 15, (appearing under the heading of "*Audi Alteram Partem*,") as to make it appear that I have been guilty of incorrectly translating the German term "entgiften" which is the opposite of the German term "vergiften"—to poison—and which has no equivalent in the English language—except "disempoison" perhaps

The Doctor, after pretending to be familiar with the expressions of Binz—and after stating that I have no reason to take issue with Binz on his doctrine, sums up his article by stating that it is sometimes dangerous to make a translation when not perfectly familiar with the respective languages In this I fully agree with the Doctor, and he will, no doubt, agree with me after reading this article that it is still more dangerous to criticize that which one does not fully understand

When I penned the words, "to poison the organism as it were," I knew full well that unless the readers thereof were familiar with the subject upon which Binz expressed himself, they would construe these words in a translatory sense, when, in fact they were penned in a definitory sense—as will be seen hereafter

That slight incidents will furnish the key to great truths is fully illustrated in the present case—as the incidental error on my part in substituting "Buda Pesth" for "Weisbaden," the place where Binz expressed himself, as quoted by me, goes to show that Dr Aschman was not familiar with the expressions of Binz until I caused them to appear in print on June 15, as he would hardly have overlooked this error on my part, hence I am not surprised that the Doctor failed in comprehending the sense in which I penned the words, "to poison the organism as it were"

As "sero-therapy" is the outgrowth of just such expressions as those made by Binz at Weisbaden in 1883, and as the adoption or rejection of said therapeutic method in this country must depend upon a full understanding of the cardinal principles underlying it—I will take this opportunity to expose these principles more fully, for the benefit of those who are not familiar with the German language

The subject upon which Binz expressed himself at Weisbaden was Antagonism between Microbes and Toxins" He expressed himself in a bacteriologic sense—on the assumption that infectious diseases are due to specific microbes and their toxins, capable of antagonizing or chemically neutralizing one another in the blood—when he said "Our *future* therapeutic efforts in infectious diseases must be toward '*den lebenden organismus zu entgiften*,' in contra distinction to our *past* therapeutic efforts which have been toward '*den lebenden organismus zu entgiften*,' by eliminating the contagium at the bedside by such physiologic processes as emesis, catharsis, diaphoresis, diuresis," etc

That a therapeutic method having for its object chemic neutralization of one toxin by another, or destruction of one microbe by another in the blood—phagocytosis as it were—differs radically from a therapeutic method having for its object physiologic elimination of the contagium, can hardly be gainsaid, hence I have good reason to be at issue with Binz, Dr Aschman's opinion to the contrary notwithstanding And inasmuch as I have shown that there exist no reliable scientific data that would justify us in assuming (see my papers, the "Status Presens of Antitoxic Blood Serum," and the "Status Presens of Inherited Tuberculosis" read before the State Medical Society of California April 16, 1895) that infectious diseases are caused by specific micro organisms or their toxins the majority of the American medical profession will no doubt agree with me that I made no "serious mistake' when I *defined* the "serum method," based upon the expressions of Binz and others, "to poison the organism as it were," especially so, when I have shown by reliable scientific data that the serum causes chemic decomposition of the blood and has increased the mortality from diphtheria in Berlin over 25 per cent

Concluding, I will say, that while I would regard chemic neutralization of the etiologic factor concerning infectious diseases as the "ideal" therapeutic method in such diseases still until such results shall be demonstrated beyond a reasonable doubt, I, and I believe the majority of the profession in this country, will continue in the future, as they have done in the past, to eliminate the poison, "*ad via naturam*," physiologically as it were

Respectfully submitted,

Chas G Kuhlman, M D

Dr Robert L Annan

To the Editor—In your issue of June 8, on page 909, under the caption, "An Example to be Followed" it is stated that "Dr Andrew Annan of Emmitsburg, Md, who was 90 years old on April 27, has contributed $50 to the Rush Monument Fund"

In a communication written immediately on reading this paragraph, but which has evidently failed to reach you, I begged you to state that the worthy physician whose example I hoped would be followed was Dr, Andrew Annan, of Emmitsburg, Md whose father, Dr Robert Landales Annan, was a student of Dr Rush, and whose certificate of qualification for the practice of medicine, bearing this great man's signature, is now in the possession of the latter's grandson, Dr Robert L Annan, of Emmitsburg

In asking you to make this correction, I beg also to remind the members of the Association that at its last meeting it was made their individual duty "to collect funds for the Rush Monument from their fellow practitioners and transfer the amounts to the Treasurer of the Committee on Rush Monument at *as early a day as possible*"—and I hope that every delegate and member present at that meeting will promptly follow the example which our esteemed and venerable colleague, Dr Annan has set, by transmitting the funds he may collect to George H Rohé, M D, Secretary, Catonsville, Md

Very respectfully,

Albert L Gihon, M D,
Chairman Rush Monument Committee

Woman's Medical College of Pennsylvania

Philadelphia, Pa, July 6, 1895

To the Editor—In a recent issue, you reprint the greater part of an editorial appearing in the *Medical Press and Circular*, concerning the status of American diplomates and, while noting some errors, fail to point out that the "Female Medical College" to which allusion is made in the editorial, is a non existent institution and has been so for over twenty-five years The unfavorable light in which the college is placed, may be easily transferred by some persons to the only institution existing in Philadelphia for the instruction of women in medicine, namely, the Woman's Medical College of Pennsylvania This institution is a member of the Association of American Medical Colleges, has been represented at all its recent meetings and conforms to its requirements I presume it is hardly, necessary to state that the college is in good standing in the medical profession of the United States

Yours,

Henry Leffmann

Illinois State Board of Health

To the Editor—Enclosed please find copy of a set of resolutions unanimously adopted by the Illinois State Board of Health, at its recent meeting held in Chicago June 25, 1895 Will you kindly give the same publication in the next issue of your Journal? and greatly oblige,

J W Scott, M D, Sec'y

Whereas, The Faculty of the Northwestern University

Woman's Medical College adopted a set of resolutions, criticising the Illinois State Board of Health for having issued to three non-graduate students of said College, the State certificate entitling them to practice medicine, whom they claim were not entitled to receive them, and charging the Board with having adopted a lax policy in numerous other instances, thereby seriously detracting from the usefulness of the Board, and

Whereas, Although the resolutions were "ordered to be placed before the Illinois State Board of Health," they were furnished to the various medical publications of the country simultaneously with their presentation to the Board, and before the Board had opportunity to make any defense, and

Whereas, The said College has not made any investigation of the methods or policy of the Board, and could not be in possession of information upon which to found such serious charges, and

Whereas, The Secretary of the Faculty admitted to the Secretary of the Board that the resolutions were adopted without due consideration, and were not so applicable to the present Board, and

Whereas, In the past two years no certificate has been granted to any applicant upon an average rating of less than 80 per cent on all branches, and the questions and examination papers, and a tabulated record of all examinations are preserved, and are matters of record in the office, and

Whereas, It is not in the province of the Board to adopt any policy regarding the admission to its examinations of non-graduates, the law prescribing that "non-graduates shall submit themselves for examinations," and further prescribing that "the examinations shall be of an elementary and practical character," therefore, be it

Resolved, That justice demands that the Faculty of the Northwestern University Woman's Medical College, and all others interested, inform themselves as to the methods and policy of the Illinois State Board of Health in conducting its examinations, with a view to the establishment of the charges made, or of making such withdrawal, alteration or explanation of the charges as the facts may warrant, and further, that the Faculty inquire as to whether any individual interest or personal animosity prompted the drafting and circulating of the resolutions

(Signed) B M Griffith, M D,
Sarah Hackett Stevenson, M D

It was J Marion Sims

Philadelphia, July 7, 1895

To the Editor —In an article by Dr R H Dalton, published in the Journal, Dec 23, 1893, I find Dr Marion Sims called Francis Marion Sims, "named after General Francis Marion of the Revolution" Now in the "Physicians and Surgeons of the United States," page 48, you will find the name is J Marion Sims, and as the data for this sketch came to me from Dr Sims and was revised by him, it undoubtedly is correct This may be a trifle, but for the sake of future history it is better to make the correction

Yours truly, W B Atkinson, M D

PUBLIC HEALTH

The Proposed Reorganization of the Health Department of Chicago

The following is self-explanatory

86 Fifth Avenue, Chicago, June 26, 1895

Hon Geo B Swift, Mayor, Chicago

Dear Sir —It has been apparent for some time to those familiar with the workings of the Health Department of Chicago, that it needed reorganization The ordinances on which it is based do not show any harmonious plan but, on the contrary, they are the result of the changes which have taken place in the growth of this city from a village to a metropolis The time, therefore, seems ripe for the establishment of a Health Department which may not only serve for the purposes of the city of to day, but one capable of indefinite expansion, according to the future growth and needs of the city, with an increase of subordinate officers from time to time I have therefore prepared and drafted an ordinance which, in my judgment, meets the necessities of the case, and as it does not increase the general expenditure voted for the Health Department, I sincerely hope you may see your way clear to transmit it to the Council for early passage

This plan involves future codification of all the laws and ordinances bearing upon the public health and the allotment and definition of the duties of all classes of public employes as related thereto It provides also for the adoption of such regulations as concern the division of the city into sanitary districts, to be increased from time to time as the growth of the city requires, in other words, it is an elastic plan which will not require changes in the immediate future I have omitted the compensation to be attached to each office and submit in another inclosure a proposed schedule of the same for the information of the Finance Committee In the preparation of this schedule, I have been assisted by the Assistant Commissioner, Dr Frank W Reilly, who has had access to the records showing amounts at present paid by the department

I will now take the bill up by sections for the purpose of explanation Sections 1, 2 and 3 are, in my opinion, necessary to secure the perfect working of the officers and employes of the department Indeed, it will be found impossible to secure the appointment of proper persons unless the tenure of office be made more secure than has been the case under previous ordinances Moreover, it is such as to bring the department in line with the civil service laws of the State and of the United States I had charge of a Bureau of the Treasury Department when the present civil service law was enacted, and I am entirely familiar with its operations Some passages in this ordinance will be recognized as quoted directly from that law

Sections 4, 5, 6 and 7, are self-explanatory, and relate to the different classes of officers, and especially to the qualifications and appointments of the Sanitary Director and Assistant Sanitary Director

Section 8, relating to the City Physician, after giving the qualifications, makes specific mention of his duties There is some conflict in the present ordinances as to his exact relations with the Health Department, and this section makes it entirely clear

Section 9, relating to the Commissioner, sets forth his duties, and, as I understand it, is well calculated to carry out your views in regard to placing the business portion of the Health Department under the direction of a skilled business man, and as will be seen, there are duties of this nature quite sufficient to occupy the time of a man of this character

Section 10, providing for a Sanitary Captain, is self explanatory It must be obvious that some one must be had to account for the property owned by the Department, to have charge of the same, and to superintend and to direct the outdoor work I have nowhere seen in the ordinances or regulations of the Department any provision looking to an accounting for the property, as is provided for in this section, which is not only calculated to protect the interests of the city, but to prevent misuse or misapplication of any property or appliance belonging to the Department

Sections 11 and 12 relate to the appointment of a City Chemist and a Medical Inspector, which are self explanatory, except that definite qualifications are, for the first time, provided for The system of examination of medical inspectors, as preliminary to appointment, as proposed in this ordinance, should by all means be adopted at the earliest possible moment, as the appointment of persons through motives of friendship or political association fails to secure that standard of professional qualifications that a great city should always be able to command

The Sanitary Corps, provided for by Section 14, simply defines the status of the existing affairs, with this exception, that it does not provide that physicians shall be employ as fumigators, who are practically skilled laborers, as the is no need to pay such high prices for work of this character It appears on investigation that the designations laid down by present ordinances do not by any means define the work actually accomplished by the persons being designated as fumigators, who are employed in the Vaccination Department and elsewhere, and it seems that no particular regard has been paid to ordinances in the matter of nature of employment of persons as designated by the ordinances These irregularities, perhaps impracticable to be avoided under existing conditions or circumstances, will be done away with if the new ordinance shall be passed

Section 16 provides for the employment of an interpreter, an office not at present borne on any roll, but which is extremely necessary for the issuance of circulars in the different languages which are necessary in order to reach a polyglot population such as exists in Chicago, and his services will be required whenever personal investigations are undertaken in certain districts not only by the Sanitary Director or by the Medical Inspectors

The enactment of this ordinance will necessarily require the re-appointment of all officers and employes mentioned in the act except the City Physician and Commissioner of Health Respectfully submitted

JOHN B HAMILTON

AN ORDINANCE TO REORGANIZE THE DEPARTMENT OF HEALTH

Be it ordained by the City Council of the City of Chicago

There is hereby established in the municipal government of the city of Chicago an executive department to be known as the Department of Health

Appointments—General Provision

§ 1—No person shall be appointed to any office or position in the said Department until proper inquiry shall be made by examination, or otherwise into the ability and fitness of such person to perform the duty that may be required of him, should he be appointed

Removals—General Provision

§ 2—No officer or employe of this Department shall be removed except for cause and no person shall be appointed promoted or removed for any political reason Any officer or employe may be removed for crime malfeasance habitual neglect of duty willful misconduct insubordination, disobedience of orders incompetence, or insanity and for no other cause

Officers and Employes shall not accept Gifts or Bribes

§ 3—Any officer, inspector or member of the Sanitary or Ambulance Corps who shall accept any gift of money or other valuable thing for reporting or not reporting the existence of any nuisance or case of contagious or infectious disease shall upon proof thereof be dismissed by the Sanitary Director and shall in addition be subject to such other penalty as the ordinance may prescribe

Enumeration of Officers and Employes

§ 4—The Department of Health shall hereafter consist of the following officers and employes to wit a Sanitary Director, an Assistant Sanitary Director, the City Physician, the Commissioner, a Sanitary Captain the City Chemist, Medical Inspectors, the Sanitary Corps, Clerks and Interpreter

Sanitary Director—General Qualifications

§ 5—The Sanitary Director shall be a physician of not less than ten years' practice and shall be skilled in sanitary science He shall be appointed by the Mayor by and with the advice and consent of the Council He shall hold his office until his successor shall have been appointed and qualified

Duties of Sanitary Director

§ 6—The Sanitary Director shall supervise all matters connected with the sanitary interests of the city, and shall perform such specific duties as may be defined in this ordinance, or designated in former ordinances to be performed by the Commissioner of Health except such duties as are prescribed for said Commissioner in this ordinance, and he shall have authority over all officers and employes in said Department And when at any time it shall become necessary to establish lake or land quarantine, he shall have command of such quarantine He shall according to circumstances and season issue such circulars of popular instruction as shall lead to the preservation of the public health

Assistant Sanitary Director—Qualifications

§ 7—The Assistant Sanitary Director shall be a physician of not less than ten years' practice, and shall be skilled in sanitary science He shall upon recommendation of the Sanitary Director, be appointed by the Mayor, by and with the advice and consent of the Council, and shall hold the office until his successor shall have been qualified and confirmed

Duties

He shall perform such duties as may be assigned him by the Sanitary Director In case of the sickness, disability or prolonged absence of the Sanitary Director he shall by direction of the Mayor, act in the stead and perform the duties of the Sanitary Director

City Physician—Qualifications

§ 8—The City Physician shall be a physician of not less than ten years' practice in the State of Illinois, of which not less than five shall have been in the City of Chicago He shall be appointed by the Mayor, by and with the advice and consent of the Council

Duties

He shall supervise the administration of the hospitals established by the city, including hospitals for contagious diseases, excepting quarantine hospitals He shall prepare regulations for the government of police surgeons ambulance physicians resident physicians and superintendents of the city hospitals, in the performance of their duties and shall have immediate supervision of the city ambulance service, when established He shall attend or cause an assistant to attend the sick in the city workhouse, calaboose, watchhouse, police stations or houses of correction, and shall attend such meetings as may be held by the Department of Health and in case of epidemic, he shall render such assistance and cooperation, and perform such duties in connection therewith as the Sanitary Director may require

Commissioner

§ 9—The Commissioner of the Health Department shall be skilled in business affairs and shall be appointed by the Mayor, by and with the advice and consent of the Council

Duties

He shall have supervision over all clerks of the Department except as hereinafter provided, and shall have charge of all accounts He shall keep an accurate record of all receipts and expenditures and shall be responsible for all fees received He shall keep the records of births, marriages and deaths, and issue burial permits under regulations to be made by the Sanitary Director He shall disburse all monies, pay all officers and employes, make all purchases of supplies and execute all contracts, but he shall make no purchase of sanitary or special appliances without the approval of the Sanitary Director

Sanitary Captain

§ 10—The Sanitary Captain shall be a person accustomed to superintendence of workmen, and qualified to keep records He shall be appointed by the Mayor on the recommendation of the Commissioner, and shall have the rank and pay of a Captain of Police

Duties

He shall be the custodian, and have charge of the store house of the Department with all property belonging thereto, including horses, wagons, carts, ambulances, fumigating apparatus and sanitary appliances of every kind belonging to the Department, and shall make a semi annual return thereof to the Commissioner The return shall show from whom the property was purchased or received, to whom issued, and the present condition thereof No property of any kind shall be issued to any person except upon requisition duly approved by the Sanitary Director, Assistant Sanitary Director, City Physician Commissioner or Chemist He shall have charge of the Sanitary Corps and under the Department regulations, supervise their work

Chemist—Qualifications

§ 11—The Chemist shall be a graduate in medicine, skilled in chemistry, pharmacy and bacteriology He shall be appointed by the Mayor on the recommendation of the Sanitary Director

Duties

His duties shall be to have charge of the laboratory, and to conduct such chemic and bacteriologic investigations as he may from time to time be instructed to make by the Sanitary Director, to make test investigations of food products, milk, water, ice beverages and drugs, and to make report thereof to the Sanitary Director

Medical Inspectors

§ 12 The Medical Inspectors shall be appointed by the Mayor on the recommendation of the Sanitary Director, but no person will be appointed Medical Inspector until after such examination as shall satisfy the Sanitary Director that the applicant is fully informed in the principles of sanitary science

Qualifications

Physicians holding the collegiate degree of Doctor in State Medicine, or its equivalent, will not be required to pass such examination

Chief Inspector

One of the said Medical Inspectors shall be specially skilled in the diagnosis of the exanthematous and contagious diseases, and shall be designated as Chief Medical Inspector

§ 13 Medical inspectors, except the Chief Medical Inspector will perform such service as may be required of them from time to time, and they shall be paid according to the service actually performed, on a schedule of pay to be prepared by the Sanitary Director and approved by the Mayor

Sanitary Corps

§ 14 The Sanitary Corps will consist of three divisions viz, first, those employed in the division of the City Physician as litter bearers, ambulance drivers and hospital attendants, second, milk, meat, food and other inspectors employed in the chemist's division, third, plumbing inspectors, fumigators, and persons employed in the work of placarding infected premises, and disinfection of the same, acting under the Sanitary Captain

Uniform to be Worn

§ 15 All members of the Sanitary Corps shall wear the uniform of their grade, and shall receive such monthly compensation as the Mayor may by order promulgate, as equitable for the services respectively performed by each class

Clerks and Interpreter

§ 16 There shall be employed in the Department of Health—clerks who shall be appointed after due examination into their fitness for such position, and they shall be assigned to such duty as the Commissioner may designate, *provided*, that the Sanitary Director is hereby authorized to employ one person as stenographer and clerk to serve under his immediate direction, and one person as interpreter and translator No person shall be employed as translator who can not read correctly and converse in five modern languages to be designated by the Sanitary Director

Repeal Provisions

§ 17 So much of all previous ordinances as conflict with or in any way impair the operation of this ordinance are hereby repealed, and all provisions of law and ordinances relating to the Department of Health, the Commissioner of Health, the City Physician, the inspection of food, milk, ice and drugs, and miscellaneous ordinances relating to health, in Chapter XXXII, and numbered consecutively from section 1907 to section 2059 inclusive, of the revised laws and ordinances in force April 2, 1890, and the laws and ordinances from April 2, 1890, to July 10, 1894 being Chapter XXXII numbered consecutively from section 5053 to section 5137 inclusive, shall, so far as they may be applicable, remain of full force and effect

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Health Reports —The following health reports have been received by the Supervising Surgeon General, Marine-Hospital Service

SMALLPOX—FOREIGN

Antwerp	June 1 to 8, 1 case, 1 death
Batoum	June 4 to 18, 8 cases, 4 deaths
Buda Pesth	June 3 to 17, 1 case, 2 deaths
Cairo	May 20 to 27, 6 deaths
Calcutta	May 18 to 25, 56 deaths
Dublin	June 16 to 23, 4 deaths
Edinburgh	June 16 to 23, 2 deaths
Havana	June 20 to 27, 3 deaths
Liverpool	June 15 to 22, 1 death
Leith	June 16 to 23, 3 deaths
London	June 8 to 15, 19 cases, 1 death
Manchester	June 8 to 15, 2 cases
Montevideo	May 10 to June 1, 3 cases
Odessa	June 8 to 15, 1 case, 3 deaths
Paris	June 1 to 8, 1 death
Rio de Janeiro	May 25 to June 8, 18 deaths
Rotterdam	June 15 to 22, 4 cases
St Petersburg	June 8 to 15, 6 cases, 2 deaths
Triste	June 8 to 15, 1 case

SMALLPOX—UNITED STATES

Ohio	Cincinnati, June 28 to July 5, 1 case
New Jersey	Hoboken, June 22 to 29, 1 case (varioloid)
Tennessee	Memphis, June 30 to July 6, 2 cases
Missouri	St Louis, June 22 to 29, 3 cases

CHOLERA

Calcutta	May 18 to 25, 47 deaths
Hiogo	June 8 to 15, 13 cases, 7 deaths

YELLOW FEVER

Cienfuegos	June 23 to 30, 1 death
Havana	June 20 to 27, 10 cases, 5 deaths
Rio de Janeiro	May 25 to June 8 30 deaths
Santos	May 24, to 30, 33 cases, 18 deaths
Vera Cruz	June 20 to 27, 5 deaths

The following letters have been received from Dr R Cleary, Sanitary Inspector Marine-Hospital Service at Rio de Janeiro, Brazil

CONSULATE GENERAL OF THE UNITED STATES OF AMERICA

Rio de Janeiro, June 4, 1895

Sir —I have the honor to transmit report for week ended June 1, 1895

There were 8 deaths from accesso pernicioso, a decrease of 6, 9 from yellow fever, a decrease of 14, 6 from smallpox, an increase of 2, 6 from enteric fever, the same as in the foregoing week, 2 from beriberi, none in the former week, 2 from measles and one from whooping cough, the same as in the previous week, 1 from influenza, 2 from choleriform diarrhea, an increase of 1, and none from other choleraic diseases

The total number of deaths from all causes was 279, a decrease of 64 from the foregoing week

I am happy to say that the above shows a decided improvement in the sanitary condition of the town and port

Cholera —I hear nothing more of this disease, though occasionally a death from some choleraic form of disease is reported, which I do not think means much

Yellow Fever —The few sporadic cases of this disease are steadily declining in number, so that there is nothing here now more than usual for the time of year

Rio de Janeiro, June 11, 1895

Sir —I have the honor to inclose report for week ended June 8, 1895

There were 9 deaths from accesso pernicioso, an increase of 1 over the foregoing week, 21 from yellow fever, an increase of 12, 12 from smallpox, an increase of 6, 4 from beriberi, an increase of 2, 3 from enteric fever, a decrease of 3, 2 from measles and one from whooping cough, the same as in the foregoing week, 1 from choleriform diarrhea, a decrease of 1, 1 from diphtheria and 1 from leprosy From all causes there were 350 deaths, an increase of 71 over the previous week

The increase in the number of deaths is great, and I do not know what to attribute it to, unless to the damp weather

Yellow Fever —The number of deaths from this cause more than doubled in this week, but it is not unusual at this time of the year to have rises and falls in the number of deaths until the end of June, when the disease becomes almost extinct, as a rule, but it is never entirely so in this town There is no fear of an epidemic at this time of the year

Cholera —No more cases of this disease have appeared, either in the interior or in the town The one case of choleriform diarrhea reported may or may not have been cholera I doubt it

Smallpox —There is always an increase in the so-called winter season, which is now beginning, and the total of 12 deaths from this cause is not excessive, as they occurred at scattered points, and the disease does not appear to be extending epidemically

Leprosy —It is well known that there are many lepers in the interior of the State of San Paulo, and this case may have come from that part of the country

Measles and Diphtheria —As for these diseases they are not epidemic here, and have not been since I knew the place, but sporadic cases do appear, usually brought from outside

MISCELLANY

Dr Ernest Laplace, LL D —At the last annual Commencement of Georgetown University, Washington, D C, the degree of LL D was conferred on Dr Ernest Laplace, Professor of Surgery in the Medico-Chirurgical College of Philadelphia

Dr Bransford Lewis, of St Louis, having resigned his position with the Missouri Medical College, has been elected Professor of Genito-Urinary Surgery at the College of Physicians and Surgeons, and Genito-Urinary Surgeon to the Baptist Hospital

A Corporation with a Soul —The Metropolitan Telephone Company of New York has published the following humane regulation, adopted Dec 31, 1894 "Any person may be granted free service at any public pay station of this company for the purpose of securing an ambulance or medical assistance necessitated by some accident in the immediate vicinity of such station A statement of the circumstances, signed by the pay station agent will be accepted as a basis for remitting the charge Pay station agents should secure, if possible, the signature of the person using the instrument for such purpose" It would be well if all other companies would make their service "as free as air," as an assistance to the emergency or ambulance work of our cities

Correct Addresses Wanted —Will some one please give the correct addresses of the following Dr George Baine, Washington, D C , Dr Geo Bensen, Philadelphia, Pa , Dr B J Byrne, Baltimore, Md , Dr W Balgrous, Baltimore, Md , Dr W J Craigen, Baltimore, Md , Dr W F Hines, Baltimore, Md , Dr G M Kober, Baltimore, Md , Dr S W Lotto, Philadelphia, Pa , Dr I Meyer, Baltimore Md Dr W L Nosbeen, St Louis, Mo , Dr J R Thomas, Baltimore, Md These names were added to the mailing list as new members of the Association, but their Journals have been returned by the postmaster requesting better directions for the delivery of same All Journals, especially those sent to the larger cities, would reach their destination more promptly if the street and number were added, and we respectfully request members to furnish us with these in cases where they are omitted

"Tuckahoe," or the American Truffle —The scientific writer for the New York *Independent* has collated the following facts regarding the so called "Indian bread," or "Indian loaf " regarding the so called "Indian bread," or "Indian loaf " in some of our scientific serials "Attention is being called in some of our scientific serials to certain species of cryptogamic plants, which grow wholly beneath the surface, and which might perhaps be popularly called underground puffballs Like all the puffball family they are nutritious, and if they could be produced in large numbers would be valuable commercial articles of human food The best known American species is found southward, and is known as 'Indian bread' from its nutritious properties, and by the Indians called 'tuckahoe' The average size is about that of one's fist, but often much larger They are believed to be somewhat abundant, if one only knew how to locate them , but it is only now and then that specimens can be seen outside of museums In the Old World the best known of this class is the truffle But a difficulty was found in locating them until a race of dogs were trained to indicate by scent where the truffle lay buried when the truffle-gatherer would dig up the little delicacy These dogs are the chief stock in trade of the collectors, and they rarely part with the animals The truffles seem to grow the most naturally under oak trees, or in oak forests For all the large number annually collected the product does not diminish though, so far as known, the collectors take no special care to extend the growth by artificial methods There have been statements of the truffle being found in America, but it has not been clearly shown It is thought that the tuckahoe may be more abundant than it seems to be, or would be made more abundant if the roots it best loved to feed on could be definitely ascertained, and such trees in the region where the fungus is known to grow could be in some measure protected When assured of an abundant annual product, there might be no difficulty in training 'tuckahoe dogs' as well as 'truffle dogs' to aid in harvesting the crop"

Emergency Rations for the Army —The Subsistence Department of the Army has received reports from two of the boards convened to determine the best form of an emergency ration A board consisting of three line officers, one medical and one subsistence officer, was convened in each of the military departments to consider and experiment on this subject According to the *Army and Navy Journal*, the Commissary General of Subsistence declines to give out the reports of the boards for publication at the present time It is his desire to have the findings on this important question remain secret until all the organizations have submitted their views It is said that the two reports received show great research and make many valuable recommendations What will be done in the matter will be to take from each report any recommendation it may contain which General Morgan may consider worthy of adoption It is understood that the New York board is receiving a large number of samples of condensed foods from manufacturers and others interested in their adoption in the service Returns from other boards indicate similar activity on the part of dealers It is expected that all the reports will be received before September next and that then the matter will be decided The Adjutant-General has received a long report on the subject of the emergency ration from Capt J H Dorst, 4th Cavalry, military attaché to our Legation at Vienna He has forwarded samples of the Austrian war rations, viz , cans containing a beef stew , tablets of concentrated soups , one of parched flour, another of peas Other articles sent are meat and other sausages, with a mixture of vegetables intended for making soup, also compressed tablets of roasted and ground coffee prepared with the proper percentage of sugar The war rations are of several classes the full ration, the supplemental "nachshub" ration, the reserve ration for the period during and immediately following mobilization, the reserve ration for field operations, and a railroad ration All war rations are issued in kind and the full ration is always issued when practicable The nations of Europe are apparently a long way ahead of us in this matter, but the present activity of our Subsistence Department will demonstrate the faults of our ration as a war ration and enable us to adopt improved methods of subsistence for the future

A Great Work on Hippocrates —The London *Lancet* notes with gratification that both French and German scholars are at work upon a Hippocratic revival Dr Michel Sourlangas, for the French, has given a study of the ideas of Hippocrates regarding infection and the antiseptic treatment The author gives the following among the conclusions reached by him in his monograph first, that Hippocrates made medicine a science, and that on this ground he merits the title rather of Legislator than of Father of the Healing Art, second, that most of the infectious diseases were known to him—the *rôle* he attributes in their production to the air and the water constituting in fact a scientific study in etiology , and third, that he availed himself in treatment of substances whose virtues as microbicides are undeniable

But of the great German work the *Lancet* writes as follows ' But more important than these incidental excursions into the fascinating field of ancient medicine is the new German translation of the entire Hippocratic collection by Dr Robert Fuchs, of which the first volume is now before us In this the reader will readily discern that Dr Fuchs is a more learned scholar than his predecessors, and that he has also the advantage of belonging to a sounder, more scientific medical school The language in which he re clothes the Greek author is that of *modern* medicine, and the interpretation he gives is such as was possible only to one who has profited by the vast accessions to our knowledge of antiquity by the archæologist, the epigraphist and the special investigator of antique life and culture His familiarity with such monographs as the well known 'Die Botanik Homers' and such monumental treatises as that of Berendes on the 'History of Pharmacy' will illustrate our meaning The undoubted advantage he possesses over Littré, Adams and Ermerins is also manifest in the notes, which from their richness in expository matter contribute to make this book an encyclopedia of Greek medicine The first volume comprises the introductory writings of Hippocrates then the general treatises, then that on dietetics, and, finally, the general pathology and the prognostics The second volume will include the special pathology and therapeutics and will be ready next summer The third, completing the work, will appear in September or October, and will deal with therapeutics (second part) surgery, ophthalmic medicine, gynecology, treatment of infancy, and the Hippocratic correspondence The entire publication will indicate the high-water mark attained by European research and scholarship in the '*mare magnum*' of Greek medicine, and our only regret in calling attention to it is that, since Francis Adams published his translation some fifty years ago for the Sydenham Society, British learning has done so little for a subject in which it has in past centuries shown its ability to excel "

Diagnosis Tags for Use on the Battle field —During the past year much attention has been given by Army surgeons to the perfection of a diagnosis tag for field service Drs Havard, Woodhull, Hoff, Worthington and Forwood have each presented models The tag, model of 1895, issued from the Surgeon-General's office is of tough cloth paper and bears more resemblance to the Forwood tag than to the others It is five inches long by two and three quarter inches wide, with a bright red border, three sixteenths inch deep, on one side, and a dark blue border of the same depth on the other, each of which can readily be torn off along a line of perforations The tags are put up in booklets of twenty five with a few additional slips of white paper on which the word "urgent" in large blue capitals is printed Each tag is provided with a slender copper wire by which it may be attached to the clothing On the inside of the covers are printed "Directions" and "Remarks" as follows "*Directions* 1, the diagnosis tag is to be attached as soon as practicable to every sick or wounded man on the battle-field The diagnosis must, as a rule, be entered by a medical officer 2, the red border is left on and the blue torn off when from shock, severe injury or other cause the soldier is at the time unable to endure transportation 3, the blue border is left on and the red torn off when the solder requires transportation and can be moved 4, both borders are torn off when the soldier's disability is slight or such that he can walk to the dressing station or hospital 5, under 'diagnosis' the medical officer will give a brief and intelligible description of the seat and character of the injuries or the nature of the disease and sign it 6, under 'Treatment' is to be recorded what is given, especially anodynes and stimulants, and what is done from time to time by medical officers or attendants, and, when proper, it may be indicated what further is needed and the urgency of the case If necessary for brevity the following characters may be used to save time and space X, temporary dressing applied, =, permanent dressing applied, O, operation needed (amp, liga, etc), OO, operation urgently needed, X within O, operation done and temporary dressing applied, = within O, operation done and permanent dressing applied, XO, temporary dressing applied and operation needed, XOO, temporary dressing applied and operation urgently needed *Remarks* The urgency tag is to be used in addition to the usual diagnosis tag as a conspicuous mark to call attention to some case requiring immediate assistance The date is important and should never be omitted When narcotics or stimulants are administered the quantity given and the time should always be stated If practicable the name, rank, company and regiment of the sick or wounded man should be entered upon the diagnosis tag" The diagnosis tag is an elaboration in time of peace for war service which will probably be thrown aside when the war time comes, except in special cases A wounded man who is able to walk to hospital and to tell the surgeons there all about himself will not wait in the arena of danger for a medical officer to write all this information on a tag for him, and in the cases of men who are badly wounded and unable to give an account of themselves the Hospital Corps men who carry them to the hospitals may be intrusted with the needful instructions If the tag should come into use in the field as at present intended, it seems an unnecessary loss of time for the medical officer to enter the name, company, rank and regiment of each wounded man, in fact, if the man is unconscious, difficulty may be found in obtaining this information To permit of the identification of wounded soldiers at the hospital each man in time of war, as recommended by Dr Forwood, and as is customary in the French Army, should have his name and command engraved on a small medal, which should be worn around his neck under his clothes There would then be no need to enter this information on the tag

Washington Notes

HEALTH OF THE DISTRICT—The report of the Health Officer for the week ended June 22 is as follows number of deaths (still-births not included) white, 35, colored, 35, total, 70 Death rate per 1 000 per annum, white, 9 91, colored, 20 92, total, 13 45 Death rate per 1,000 per annum for corresponding week last year, 33 93 Still births white, 5, colored, 3, total, 8

DR S C BUSEY—Dr Busey, the President of the Medical Society of the District, has entirely recovered from his severe injury and left on the 29th ult, for Narragansett Pier The profession can well congratulate themselves on the recovery of one who has done so much to advance medical science The local physicians look forward with pleasure to his return to the "charge" of the Medical Society in the autumn

MEDICAL SOCIETY OF THE DISTRICT—The regular meeting of the society was held on 1st inst Only business matters were discussed, and on motion it was decided to hold the next regular meeting on Wednesday October 2 The regular monthly essayists for the year 1895–1896 were announced by the Committee on Essays

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL—The new fire escapes have been completed, the lower basement repainted and the steam elevator replaced by an electric one The annual report with an official history of the institution since its foundation, will be ready for distribution in a few days The term of service of Dr James H Church, the resident physician expired June 30, and Dr Peter M Smith the first assistant, was promoted to the position of resident physician Dr E D Shortlidge was promoted to be first assistant, Dr Francis M Furlong having passed first in the competitive examinations was appointed second assistant resident physician Dr Church will practice medicine in Washington City and carries with him the best wishes and confidence of each member of the hospital board

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from June 27, 1895, to July 5 1895

First Lieut CHAMPE C MCCULLOCH Asst Surgeon is granted leave of absence for one month to take effect about July 1

Major BLAIR D TAYLOR, Surgeon is granted leave of absence for one month to take effect between July 1 and 10, with permission to apply for an extension of ten days

First Lieut FREDERICK P REYNOLDS, Asst Surgeon, now at Ft Sam Houston, will proceed to Ft Bliss Texas, not later than July 1 and report for temporary duty during the absence on leave of Major BLAIR D TAYLOR, Surgeon

Capt CHARLES M GANDY Asst Surgeon, is granted leave of absence for two months, to take effect upon his relief from duty at Ft Yellowstone, Wyo

Lieut Col DAVID L HUNTINGTON, Deputy Surgeon General, is granted leave of absence for one month to take effect upon his relief from duty in the Dept of the Colorado

Capt CHARLES B EWING, Asst Surgeon, is granted leave of absence for two months

Marine-Hospital Changes Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the fifteen days ended June 30, 1895

Surgeon GEORGE PURVIANCE, to proceed to Delaware Breakwater Quarantine as inspector, June 19, 1895

Surgeon JOHN GODFREY, detailed as chairman of board for physical examination of candidates revenue cutter service, June 17 1895

Surgeon FAIRFAX IRWIN, detailed as chairman of board to consider necropsy reports, June 15 1895

Surgeon H R CARTER granted leave of absence for fifteen days, June 24 1895

P A Surgeon C E BANKS detailed as member of board to consider necropsy reports, June 15, 1895 Detailed as member of board for physical examination of candidates, revenue cutter service, June 19 1895 Detailed as chairman of board for physical examination of officers revenue cutter service June 27, 1895

P A Surgeon J J KINYOUN, detailed as member of board to consider necropsy reports, June 15, 1895

P A Surgeon G B YOUNG, granted leave of absence for thirty days, June 19 1895

P A Surgeon B W BROWN, detailed as recorder of board for physical examination of officers, revenue cutter service, June 27, 1895

P. A Surgeon M J ROSENAU, detailed as recorder of board to consider necropsy reports, June 19, 1895

Asst Surgeon J A NYDEGGER, granted leave of absence for five days, June 19, 1895

Asst Surgeon W J S STEWART, detailed as recorder of board for physical examination of candidates revenue cutter service, June 19, 1895

Asst Surgeon RUPERT BLUE, detailed as recorder of board for physical examination of candidates, revenue cutter service, June 17 1895

Asst Surgeon EMIL PROCHAZKA, granted leave of absence for twenty six days, June 27, 1895

LETTERS RECEIVED

Atkinson, W B, Philadelphia, Pa

Bellwood, W S, Orion, Ill Baker, E D, Stone Church, N Y, Bigelow, C P Grand Rapids, Mich, Bryan, J H, Washington D C, Bell, F M, Kelso Washington, Bettman, B, Chicago, Ill

Connell J M, Chicago, Ill Chambers, J H & Co, St Louis, Mo, Cone Andrew, New York N Y, Chicago Policlinic, Chicago, Ill, Clark & Sons M C, Albany, N Y, Cain J S, Nashville, Tenn

Doyle, Gregory, Syracuse, N Y Duffield S P, Detroit, Mich Daggett Table Co Buffalo N Y, Denver, John B, Philadelphia.

Eliot Johnson, Washington, D C

Fassett, C W, St Louis, Mo Ferguson, E D, Troy, N Y, French, Pinckney, St Louis Mo

Graff, O, Chicago, Ill, Ginrich, E H Philadelphia, Pa, Griffith, L M, Bristol, Eng Gibson, Wm Alexandria, Va

Hawley D C, Burlington, Vt, Hummel, A L, Philadelphia, Pa, Hollingsworth & Mather, St Louis, Mo, Haldenstein J, New York

Kohl, Julius, Belleville, Ill

Lee, Elmer Chicago, Ill, Leach R B, Paris, Tex, Lehn & Fink, New York, N Y

McCoy Wm A, Madison, Ind, Mogk, W A, Ann Arbor, Mich, Magruder, G L, Washington, D C Marcy, H O, Boston Mass Mayo, W J Rochester, Minn, McLauthlin, H W, Denver, Colo, Mills, J T, Jersey, Ohio Milbourne Advertising Agency, Baltimore Md

Northwestern University Medical College, Chicago Ill Nicholson, W A, Franklin, Pa National Vaccine Establishment, Washington, D C

Phospho Albumen Co, Chicago Ill,

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ORIGINAL ARTICLES

RELATION OF MATTER AND MIND IN HYPNOTISM

Read before the Indiana State Medical Society, June 6, 1895

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All will concede that the present popular consideration given to hypnosis renders it incumbent on the physician who would creditably fulfill his mission that he be posted with knowledge of its phenomena and nature

In presenting my views on hypnosis, there is no pretense that I am a scientist detailing my original experimental investigations, but rather a philosopher scanning the field of psychic culture, analyzing the products of the labors of experimentalists in mental science, and deducing conclusions by associating and comparing such products with the results of progress in the broader field of physics

My contention is that the somatic mind is the product of the functioning of the encephalon, the motor of which is vital energy, an isomeric phase of and directly descended from, the oscillatory motion of atomic matter through molecules, protoplasm and tissue metabolism,and I hold that hypnosis, spiritism, Christian science, hysteria, etc , are cognate forms of correlative neuroses, the subjects of which are not up to the fullest development in mental force and balance, the shortage being due to a congenital imperfection in the encephalon or a defective working of the intellectual apparatus

To fully present the points illustrative of my contention and rehearse the facts and arguments that to my mind demonstrate their verity would require a volume, while my privilege of recital here is limited to twenty minutes reading I must therefore content myself with a verbal triangulation of the field outlined, and submit for your consideration such of its more prominent features as in my estimation are most likely to interest you

In a study of hypnosis our first obligation to ourselves is to acknowledge the reality of its existence, and our duty to our *clientele* demands that we be able to point out to them its nature and significance A weighty fact that should be kept constantly before us is that only a small fraction of the civilized people of the world are susceptible of hypnotization, and not one of this small fraction can be hypnotized without his consent

The most facile steps in producing a state of hypnosis are for one or more susceptible persons to take an easy sitting position on the invitation of some one in whom each has confidence, known as a hypnotist, who instructs them to fix their gaze and attention on some distinct thing generally a bit of bright metal, held in front of, and a little above, the eyes and close enough to require a slightly convergent vision to see it clearly, and maintain this position until a sense of drowsiness creeps over them to which they yield and fall asleep, or into a state simulating sleep wherein they are oblivious to everything except the suggestions of the hypnotist This hypnotist is no particular person but may be any one who by agreeable appearance and bearing wins the confidence of the subjects, nor is there a special virtue in this bit of bright metal, anything, bright or otherwise which can hold the attention of the subject without exciting his curiosity or other inquisitive sense will answer the purpose The subject who thus becomes hypnotized I will call a hypnotic

Suggestion by the hypnotist may be successfully made by touch, by motion, or by words, but not by will power of the hypnotist, except through some act recognizable by one or more of the hypnotic's normal senses By these means the hypnotic can be made to believe that the tincture of wormwood is a delicious syrup, that the odor of assafetida is the attar of roses, that the notes of a mandolin are the howl of a wild beast, that potatoes are lumps of gold, that contact with ice will scorch his fingers, and so on through the most irrational vagaries But this line of suggestion has its limits, it must be kept within the bounds of the natural endowments of the hypnotic and the influence of his education, as also the impression of his immediate environment

These limiting impressions are known as auto-suggestions and are of the highest importance in understanding the possibilities of hypnosis Mr Hudson, an attorney, an investigator and writer of hypnosis, in an article (*New York Medical Journal* Jan 26, 1895,) on the "Relations of Hypnosis to Medical Jurisprudence," and Dr Cocke in his recent book on "Hypnotism How it is done, its Uses and Dangers," Boston, 1894," have treated of auto-suggestion quite fully, from which I epitomize as follows a hypnotic who is a moral man strongly averse to injuring a fellow mortal has a pasteboard dagger placed in his hand when under the deepest influence of the hypnotizer, who directs him to stab the person nearest him in the breast, which he does instantly and without hesitation, then the hypnotist places a real dagger in the hand of the hypnotic with the same instructions, but the hypnotic hesitates and if the hypnotist insists, the hypnotic comes out of the hypnotic state in great agitation This is due to the hypnotist's instructions to the hypnotic to commit a crime which in the hypnotic's normal state nothing could induce him to do Notwithstanding his hypnotic state his conscience readily distinguishes between a pasteboard dagger which could do no harm and a steel dagger which would destroy life

Again, a hypnotist has a virtuous woman for a subject and when he has her under full control makes improper advances to her which she will promptly resist, and if he presses his purpose will come instantly to the normal exercise of her mind with a shock, probably followed quickly by a hysterical explosion. Any one who submits to be hypnotized can determine before the séance begins, that if certain things are commanded of him while under the influence of the operator he will not obey, and if the certain things are attempted he refuses and can not be forced.

The environment also has a guiding control in the extent to which the hypnotic can be carried. If the séance be a public exhibition and several subjects are presented, there will be a wide difference in the limits within which they can severally be manipulated. In public presentations most of those who offer themselves as subjects do so with the conviction that they are to contribute to the entertainment, and those of them who place no restraint on their actions before the public, obey the hypnotist in every suggestion, however ludicrous it may be, others will refuse to follow suggestions that infringe on their dignity, while still others will decline further advance if the lead crosses the line of their sense of moral rectitude.

The lesson of this phase of hypnosis is that if the hypnotics in any séance should, at the suggestion of the hypnotist commit murder, prove licentious or make buffoons of themselves, neither hypnotism nor the hypnotist would be the essential cause of the misdeed, but at most would only be amenable to the charge of affording the offender an opportunity, and prompting him, to advertise his real character. In his heart he was a murderer, a lecher or a buffoon before he was a hypnotic.

If this sketch of hypnotism be true, it neutralizes the apprehension many excellent people have entertained, that the public was liable at any moment to be confronted with a hideous felony, brought about by a depraved hypnotist suggesting the crime to an otherwise innocent and conscientious hypnotic.

A fortnight since, I read in a Richmond newspaper a statement to the effect that in an Indiana city a man had recently been convicted of murder and sentenced to the penitentiary for thirteen years, mainly on the testimony of a woman who subsequently confessed that her testimony was false and that she had committed the murder herself. This woman was now in a hospital near to death from consumption, and on May 19 the judge went to the hospital with a hypnotist and authorized him to hypnotize the woman that she might tell which was true, her testimony or her confession. Under hypnosis she declared her testimony true and her confession false, the latter being made under duress.

If the mental condition of this moribund hypnotic was such as set forth in this essay, as the ordinary condition of hypnotics, she would declare touching the truth or falsity of her previous statements just as the hypnotist now suggested or as she had determined for herself before entering the hypnotic state. If seriously made, such use of hypnosis would be misprision of criminal jurisprudence, and a travesty of forensic medicine.

Charcot, "Dictionary of Psychological Medicine," states that a typical case of hypnosis traverses three well-marked stages of development, to-wit: catalepsy, lethargy and somnambulism. Catalepsy is the first step and is secured by withdrawing the bright object at which the subject has been gazing, the moment he loses consciousness. On such withdrawal the subject with fixed unwinking eyes continues to gaze at the spot from which the object was removed and, if not disturbed, will remain in that exact position until the contractile energy of his involved muscles is exhausted, when his body will adjust itself obedient to the law of gravity.

In this state, the subject is as plastic clay in the hands of the potter, his arm can be raised to any position and will remain there, his head may be placed awry and will continue thus, his whole body may be molded to any form, esthetic or fantastic, consistent with his anatomy.

The lethargic state may be induced by the hypnotist simply closing the staring eyes of the subject, or he may be allowed to continue his gaze at the bright object and his eyelids will soon droop, then close, his lethargy will be complete and profound and he may so remain, if undisturbed perhaps twenty-four hours, with no other apparent objective evidence of vital activity than is manifested in his respiratory and circulatory apparatus.

The lethargic condition is converted into the somnambulistic state by certain manipulations, especially by the operator rubbing the vertex of the subject with the tips of his fingers or the palm of his hand. The effect of this vertex friction is a well established clinical fact for which no rational explanation has been afforded.

While the foregoing stages are clearly enough marked in typical seizures, in fresh subjects, the manifestations are mixed and irregular in many fresh cases, and in those who have been frequently hypnotized, the distinction is not observable.

Charcot maintains there is a clear relationship between the hysterical diathesis and hypnosis, and the close observer, after sufficient experience, will not hesitate to accept his conclusions. Conceding the relationship between hypnotism and hysteria, as taught by Charcot, it is as far as we can go, for the phenomena characterizing the two have little in harmony and their sequels are widely divergent—hysteria simulating by times almost every idiopathic pathologic condition, frequently ending in permanent invalidism or structural changes of a hopeless character, while hypnosis but repeats its original distorted features with less and less prompting and its only common mischievous sequel is a perverted intellect.

To obtain a rational concept of hypnosis we must keep distinctly before us that the mind is the product of a multiple organ of most complex organization and complicated physiology. So emphatically is this true that to analyze the structure of this organ and comprehend clearly the fruit of its functioning in the adult human by a study of it in such human, is beyond the powers of the acutest observation and the profoundest comparison.

A year ago it was my privilege to read a paper before this society, devoted to a consideration of the origin and development of man's mental powers, wherein I advanced the proposition that since the time of Aristotle, students of mind had substantially confined their investigations to its structure and manifestations in the adult human, in general terms regarding it as a dual thing composed of a natural and a supernatural moiety, with the result of great diversity of conclusions without satisfaction in any of them. Without questioning the dual character of our minds, I further stated that all its operations, open to our observation, were due to the vital energy as exhibited by or through our nervous organizations, and that the study of mentality involved only the investigation of the nervous apparatus, the fruit of which is known as the somatic mind, and to comprehend this we must abandon the scholastic method of research and instead, adopt the modern method of scientific interrogation of nature which discards primary inquiry into the complicated and involved nervous system of adult man, descends through the less and less intricate organizations of the long catalogue of inferior animals and finally reaches the amœba, held to be the simplest living thing presenting the essential characteristics of the animal kingdom The amœba is a single cell of undifferentiated protoplasm It has no muscular system, yet moves, it has no organs of special sense, yet selects its food and seizes it, it has no digestive system, yet consumes food and is nourished it has no organs of generation, yet propagates its kind and continues its species, it has no nerves, yet all vital activities are accomplished with precision and in the utmost harmony Here, then, the scientist meets his opportunity to begin the study of the nervous system of man, for this simple one celled animal is the first link in the extended chain of animal existence, whose final link is the wonderfully complicated human organization And the succession of living things, from amœba to man, is but an unbroken continuance of added cells and differentiated function, man being apparently the acme of the Creator's intent, but not a uniform product of creative power, for excepting the distinctive points that fix man's place in the classified animal kingdom, the differences of both body and mind among the peoples of the earth, due chiefly to environments or other mundane influences, are so patent that it may be fairly claimed that the contrast between the highest and lowest humans is not less than the difference between the lowest human and the highest simian

Without further attention to man's organization as a whole, let us give brief consideration to his nervous system—not to its anatomy but its physiology For the present lesson we recognize three grades of nervous energy, functionally distinct in their typical endowments, yet so intimately blended and interdependent as to require constant recurrence to the type of each to avoid confusion in their conjoined service The first grade has its genesis in the centers that preside over the automatic activities of the body which include digestion, assimilation and the whole diversified metabolism of the organization, and are but little influenced by the other grades and that little by indirection The second grade has its seat in that part of the encephalon centrally situated that, in the last few years, has been experimentally demonstrated to be constituted of motor centers To a considerable extent these centers have been shown to have original motor jurisdiction when excited by either external or internal stimulants The third grade emanates from the anterior and posterior regions of the cerebrum and includes the perceptive, the intellectual, the emotional and the will powers of the mind, and in its entirety dominates all the voluntary activities of the body, which it does through its command of the other grades of the nervous system This is the grade that gives rise to the phenomena of hypnosis, and the seeming mystery of these phenomena will disappear if we realize that the mind is not a unit, but is made up of sundry greater departments, sub departments and minor divisions which may all act in unison, but also under some circumstances one or more of the divisions may function within certain limits quite independently of others and it is here that hypnosis has its genesis

The actual condition of the mind in hypnosis is the suspension of the will power, except as to the suggestions of the hypnotist which are obeyed implicitly until obedience involves a violation of the moral sense of the hypnotic as it exists in his normal mental state This dominant power of the moral sense is a fact of the highest significance, being the witness to a phase of insentient mental operations included by psychists under the terms, unconscious cerebration, mental automatism and reflex action of the brain, that have exceedingly important relations with the entire range of human thought and action

There is no rationale for the phenomena of hypnosis any more than there is for chemic affinity, gravity or other motorial factor in nature The fact we need to clearly comprehend and persistently retain is that the full catalogue of vital activities recited, are such obedient to cosmic law, under which the Creator fashioned the earth and governs all things therein

Recurring to the amœba, I may recall the fact that it was elaborated protoplasm in which the first vital cell was organized, and that in man there is no elemental matter not found in the world around him, and that of seventy or more elements of the earth only about fifteen enter into the substance composing the human frame It is the manner of the combination of these fifteen that distinguishes man, and indeed all living things, from other products of the energy of the omniscient and omnipotent Creator So far as we can now discern, this progress is due solely to the continuous operation of a universal law impressed on elemental matter in the beginning, and as I see it, the status of civilized man and the degree of his enlightenment are measured by the fullness of his recognition of this fundamental law

It has seemed to me that we shall find the key to all we shall ever know of vital activity, including the expanded intricacies of nervous functioning, by devoting successful study to the dynamics of physics The striking difference between the variegated movements of advanced animal life and the limited rigid movement of inorganic matter is found in this, in the movements of animal organisms there is witnessed the operation of volition, *i e*, the organism, in certain directions, may do things or leave them undone as it elects, even the amœba, the prototype of all the animal kingdom in this behalf, floating in its supporting medium, may simply float as a globular speck of protoplasm or it may project a pseudopod, seize a bit of food and convert it into its own tissue, whereas if atoms of oxygen and hydrogen come into contact under appropriate environment they must unite in definite proportions and form water, and from this destiny there is no escape and no modification, and no atomic matter has other line of action

Physicists teach us there is but one energy in nature In our present lesson, reviewing matter in motion, we first meet with this force in the chemic affinity of atoms, and follow it through molecules in increasing number and complexity until they form protoplasm, and in protoplasm still further, until a cell is organized which presents the characteristics of animal life

If this review of the progress of matter from the conjugation of atoms to the organization of a living cell has been thorough and true, we will have realized but one energy The force of chemic affinity in atoms is the same as vital activity in the amœba—nothing added, nothing lost

It has already been shown that the primal animal cell presented potentially every tangible attribute of man, and that in traversing the wide range of mental force from amœba to man, even by the most enlightened, no new element nor new energy was discovered—simply more cells and higher differentiation of function

It is the consideration of these patent facts and the logic of affiliated events that enables us rationally to investigate the somatic human mind in its diversified compartments as manifested to us by the countless centers of the brain, and leads us without a peradventure to the conviction that by exciting one set of centers and inhibiting other centers, we may induce hypnosis, and by a parity of reasoning it is easy to convince ourselves that by the same token we have the *open sesame* to the understanding of the whole physiology of the encephalon, and its pathology as well

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TUMORS OF THE MAMMARY GLAND

Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10 1895

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There is no surgical subject the literature of which is less satisfactory, than that of mammary tumors This is not due to a lack of writers, but rather to their contradictory positions

In the first place the nomenclature of the subject could not well be in a worse condition The American, English, German and French schools each has a classification peculiar to itself The general reader finds himself hopelessly at sea, in endeavoring to reconcile the teachings of standard authors

The only true classification—one based upon accurate pathology—has not been followed Growths considered by some as benign, are by others treated as malignant This confusion, noticeable as it is with malignant neoplasms, is much greater with benign affections Take, for instance, the most common of benign tumors, and we find it described under the same name by only two recognized authors It has at least a dozen names The fibroma of Gross, Labbe and Coyne is the adenoma of Broca, the adeno-fibroma of Billroth, the fibro-adenoma of Cornil and Ranvier, the mammary glandular tumor of Paget, the chronic mammary tumor of Cooper, the pancreatic sarcoma of Abernethy and the lobular imperfect hypertrophy of Birkett Many of the English writers also call this growth "adenocele" Could confusion be greater?

Further, villous papillomata which are innocent and never repullulate when properly removed, are by some authors described as tubular or duct cancers They are admittedly somewhat similar pathologically, yet withal very different in a most vital feature The duct is a perfect capsule to the papilloma, beyond which it never extends The cancer defies the barrier and proliferates beyond its confines Therefore one must be somewhat arbitrary and follow the author whose position seems to him best chosen

Operators are in a large measure responsible for this confusion The gross or macroscopic appearance of a tumor after removal is of great value, and is at times scarcely secondary in importance to a careful microscopic examination I have seen many distinguished operators who never touched a tumor after its excision, but felt that their duty was performed when an assistant was told to take a part of it to a microscopist The latter, however experienced, may get a very incorrect idea of the growth from an isolated portion of it removed at random The most careful microscopist will often properly refuse an opinion when asked for one under such circumstances He is entitled to the entire growth, with a full clinical history of the case The presence or absence of a capsule, secondary degenerations, cystic transformations, whether it was central or peripheral, growing from the upper or lower surface, adherent or not to the surrounding tissues, are all facts rightly his, before a growth is prepared for the microscope Should one do this in all cases, I am sure he will have less cause to dissent from the final verdict of the microscope, which must be our court of last resort

According to a recent and excellent authority, Mr Raymond Johnson, of London, the general opinion that breast tumors originally benign are prone to degenerate into malignancy, is incorrect, and can not be proven In a series of lectures delivered at the Royal College of Surgeons, of England, in June, 1894, Mr Johnson devotes considerable time to combating this well-nigh universally accepted view He asserts that adenoma, which is by most authors supposed to be exceedingly liable to cancerous change, never does so, and says that no one has ever reported a case where an encapsulated tumor as the adenoma, has been seen bursting through its capsule and infiltrating the surrounding tissues Until he has seen such specimens and examined them macroscopically and microscopically, he can not believe they are of common occurrence, if indeed they exist at all

ETIOLOGY

Notwithstanding their frequency, it is surprising how little is known of the causes of mammary neoplasms S W Gross showed very clearly by a most patient and careful analysis of a large number of cases, that many opinions more or less well fixed in the minds of professional men were absolutely untenable The social condition—hitherto supposed to play such an important rôle in the etiology of breast tumors—is absolutely without influence Single and married, sterile and fruitful women are equally liable Trauma plays the same rôle in the production of innocent and malignant growths—11 94 per cent of the former, 11 70 per cent of the latter Disordered menstruation, hysteria, etc, cut no figure whatever Heredity perhaps has an influence, but it is slight Gross concludes that heredity can not be shown in non-carcinomatous growths, while it exists in one case out of every nine carcinomas Eczema and psoriasis of the nipple and areola—usually spoken of as "Paget's disease"—were thought by Gross and others to cause both innocent and malignant growths Recent investigations by Raymond Johnson, W Roger Williams and others on villous or duct cancer, are in line with the teaching of Thin who some years ago stated it as his belief that the so called Paget s disease instead of being the cause of tumors was simply the result of tubular growths the discharges from which caused the irritation and angry condition of the areola This position I am satisfied, is undeniably correct in the vast majority of instances

Puerperal mastitis seems to leave lumps in the breast, which are followed by innocent neoplasms in less than 2 per cent of all cases, while malignant tumors follow such conditions in rather more than 8 per cent In many instances, however, the neoplasm does not follow for five, ten, twenty or even thirty years—about fifteen on an average We may, therefore, with propriety doubt that such influence is great

RACE

I have not seen it stated in any work on mammary tumors that race exerts any influence That it does, so far as malignant disease is concerned, I have no doubt The negro is relatively immune from cancer In twenty years' experience passed in the South, where the negro population is as 1 to 5, I have encountered malignant disease in the breast of the full blooded African but once During ten years of this time I have been constantly on the staff of the Louisville City Hospital, and in charge of the surgical clinic of my college, where our patients are largely negroes Prof J M Holloway, of Louisville a surgeon of forty years' experience, doing for twenty years a very large business, tells me that after a careful examination of his case-book, he has seen 170 breast cancers, and only 2 were in negroes

At a recent meeting of a Louisville society I asked the Fellows present to speak upon this subject Two members, each of whom have been in practice over thirty years, had never encountered malignant disease in the breast of the negro All agreed that it was rare

Young, also Livingstone, in his book of travels, and Walshe in his famous work on cancer as geographically distributed, emphasize the relative immunity of the African from malignant disease in general Billings has recently made the same observation Therefore, we should not be surprised at the difference we find in the relative frequency of breast tumors in the two races I believe, however, that the same disproportion will not be found to exist in other regions of the body

In the white woman, cancer of the breast and the uterus is on a parity, for, according to Herbert Snow, "of 467 cases of cancer at the London Cancer Hospital in one year, 115 suffered from malignant disease of the breast and exactly the same number from that of the uterus" Each organ represents about 25 per cent of all cancers in women So that one half the cases of cancer in females affect the breast and uterus Other regions of the body furnish the same number of cancers in the male and female, therefore the disease is twice as common in the latter

Diagnosis—The superficial situation of the mammary glands, the frequency with which they are affected with neoplasms of a destructive nature, would presuppose a more exact knowledge of their diagnosis than we can truthfully lay claim to That mistakes in diagnosis are common, more so than with tumors of any other region of the body, few, I think, will deny There are, however, trustworthy data, in so far as they go

The age of the patient is a valuable guide In general, young subjects have benign growths and sarcoma, whereas middle and advanced life are most obnoxious to cancer Malignant growths are by far more common than benign, the proportion being rather more than 10 to 1 During the rudimentary state of the gland, benign growths (usually fibroma) may be encountered Gross in an analysis of 777 cases taken largely from reports of German surgeons, did not find sarcoma under the fourteenth year I have seen journal reports of cases in children under 10, one in an infant The average age of patients with benign growths is rather under 30 They constitute less than 10 per cent of mammary tumors (9 5)

Sarcomas occur from the beginning of menstruation to the seventh decade of life, the average age being 35 years They constitute less than 9 per cent of breast neoplasms

Cancer has been seen at 21, by Henry, though it is rare under 30 The average age for carcinoma has been placed by Gross at 48 It has been seen after 90

Villous or duct cancers, according to Roger Williams occur at an average at 53½ years Cancer claims about 82 per cent of all mammary neoplasms Undoubtedly the most valuable guide in diagnosis, is the presence or absence of enlarged lymphatic glands

For convenience of comparison, we may group sarcomas with benign growths, as the former are little if any more liable to cause enlargement of the neighboring lymphatic glands Non-carcinomatous tumors cause enlargement of the axillary glands in less than 3 per cent of all cases The supra-clavicular glands are never enlarged The enlargement of the axillary glands is largely due to irritation, and not the result of infection They are soft and not adherent to the peri glandular tissues Carcinoma, *per contra*, practically always causes enlargement of the neighboring lymphatic glands, first the axillary, then the supra-clavicular

It may be noted here that villous cancer caused enlargement of the axillary lymphatic glands in only five out of eighteen cases seen by Roger Williams, due, according to Labbe and Coyne, to a barrier of fibrous tissue between the cancer and the nearest glands

In 65 per cent of all cases the axillary glands are enlarged when patients first apply for relief—an important fact to remember when operative measures are undertaken The glands are hard, manifest a tendency to coalesce, and soon become adherent to adjoining structures

Of the remaining differential diagnostic points, the location of the tumor and whether it be mobile or not are the most important Benign affections as a rule are movable, the malignant soon become fixed Benign growths are usually located in the upper and inner portion of the gland, while malignant disease is more liable to affect the upper and outer quadrant and to be situated behind the areola The latter circumstance explains the frequency of retraction of the nipple in cancer Gross found it in 52 per cent of his cases, a larger proportion than other observers have seen

Non carcinomatous tumors cause a displacement of the nipple in less than 6 per cent of all cases In the early stage of breast tumors when any difficulty of diagnosis might be expected, such symptoms as pain, enlarged veins, discharge from the nipple history of trauma and heredity are practically valueless

To conclude, age, location of the tumor, its mobility, and the condition of the axillary glands are our surest guides Doubt as to whether or not a growth is solid or cystic will be settled by aspiration True cysts are rare, making less than 2 per cent of all cases Cystoid degeneration of solid growths is common, particularly so in non-carcinomatous tumors Cystic degeneration of the acinous varieties of cancer rarely occurs, though it is more frequent in the tubular or villous growths

An aseptic incision into the tumor for diagnostic purposes is proper, and is advised by Bull of New York, Keen of Philadelphia, and others

Treatment—Little need be said concerning the treatment of benign tumors, solid and cystic, as all are practically agreed They should be removed along with their capsule, and in such a way as to leave the nipple when it is practicable When a tendency to rapid growth is shown, and the patient is past 40, it is far safer to excise the entire gland, for it should always be remembered that mistakes in diagnosis are common, and in patients of this age the chances are 13 to 1 in favor of malignant disease

How shall we treat malignant disease, and is it curable? Reports from many distinguished sources during the past year especially, leave little room for doubt that one of the brightest chapters in the history of operative treatment for malignant disease is now being written The day for pessimism has passed American operators have so far secured the best results, with the Germans a close second The English, with whom the complete or radical operation as practiced to-day originated have, strange to say, fallen behind This is, no doubt, due to the fact that some of their best authorities as Butlin, Treves, Sutton and others have thrown all their influence against radical measures The writings of these gentlemen have evidently to a great extent fashioned professional sentiment throughout Great Britain

In 1867 Moore, of London, first advocated the complete operation as it is understood at the present time He advised thorough extirpation of the entire mamma, removal of the pectoral fascia in all instances, supplemented by cleaning out the axilla His teaching passed unheeded for a time, but was soon taken up by Banks in England, many of the Germans and Austrians, notably Volkmann, Billroth, Langenbeck, Knuster and others S W Gross, of Philadelphia, was quick to see the possibilities of the radical operation, and was its first champion in this country I was an interne in Jefferson Hospital during the time he was writing his "Monograph on Breast Tumors," and assisted him in many of the complete operations reported in this work No one who ever heard him lecture, or saw him operate upon breast cancer, can forget his intense earnestness born of deep conviction, at a time when all of his colleagues —his great father included—to draw it mildly, looked upon him as a misguided optimist In the lecture room, wards of the hospital, and his own private office, I have heard him say a hundred times that no surgeon however experienced, could rightly affirm that the axillary lymphatic glands were not enlarged, until the axilla was opened and inspected from base to apex This is now accepted of all men All honor to this brainy, aggressive, prescient surgeon!

Excellent as were Gross' results—12 to 15 per cent of cures—they have been improved upon by subsequent workers in this line, aided by more modern methods The present occupant of his chair at Jefferson, Prof W W Keen, is doing work equal to the best Weir and Dennis, of New York, each report a series of cases, 125 and 33 respectively, the former getting in round numbers 20 per cent the latter 25 per cent of cures By far the most valuable, instructive and encouraging report up to date is that of Bull, of New York, published in the *Medical Record* of August, 1894 No one has followed up cases so methodically as he has done Only 3 out of 118 cases operated upon between 1880 and 1894 remain unaccounted for, 115 were followed to their death or to Jan 1, 1894, when their condition is fully set forth Excluding cases operated upon since 1891, as a three year limit has been generally agreed upon before a cure can be reasonably claimed, there are left seventy-five cases submitted to the complete operation as defined by Moore Of this number four died from the operation, two from erysipelas, one from sepsis and one from pneumonia, fifty succumbed to recurrences or metastases, two are living with recurrence, four died of intercurrent affections after having passed the limit, and the remaining sixteen are in perfect health Counting the four dying of intercurrent disease after passing the limit, there are twenty cures or 26 6 per cent, the best showing yet made by any surgeon Deducting five cases which should not have been included and Bull has nearly 29 per cent of cures Of the sixteen still living it may be said that there has been an average of six years since operation—twice the usual limit

It is also of great interest to note that 40 per cent of Bull's cured cases had cancerous involvement of the axillary lymph glands, as demonstrated by microscopic examination Therefore, a complete operation is able to cure, even after lymphatic involvement has occurred

This series further shows that where no lymphatic glands are involved, 54 per cent are permanently cured This sounds strangely enough, I know, to those who remember that such men as Sands of New York, and Agnew of Philadelphia, each said at the close of an illustrious career in surgery that he had seen no successful case of operation for breast cancer

Results are getting better, year by year, month by month, almost day by day The trend is in the direction of a still more complete operation, and the value of it is shown by a brilliant series of fifty cases recently reported by Halsted of Johns Hopkins Hospital In every case he removes the larger portion of both pectoralis major and minor muscles He also removes the axillary and supra clavicular glands in all cases This seems necessary in a certain per cent of cases to get beyond the invisible zone

Volkmann's observation, that infiltration of the muscles sometimes occurs, has been verified by Heidenhain after the most careful investigation For a time, fortunately, the pectoral fascia arrests the march of cancer

Willy Meyer, of New York, has proposed an operation even more radical than Halsted's, as he removes all of the great and lesser pectoral muscles from origin to insertion Both Halsted and Meyer assert that such radical measures add nothing to the danger of the operation and further, do not leave the patient with an arm materially less useful Halsted has reported seventy six such operations without a death, and with only 6 per cent of local recurrences It is too soon to estimate his percentage of cures

If statistics prove one thing, it is that partial operations should no longer be practiced They do little good and are almost as dangerous as the complete method—where the axilla is invaded and all glands and fat removed—vessels and nerves only being left behind The space of Mohrenheim—between the upper border of the tendon of the small pectoral muscle and clavicle—is to be systematically inspected and cleared in every case If the two pectoral muscles are not removed the space between them must be carefully examined for outlying gland tissue and fat

What is the mortality of such operations? Taking the reports of six American operators recently given to us and we find that in 630 operations for cancer there have been 6 deaths In nearly all of these cases the complete operation was practiced W W Keen reports 200 cases with 1 death Bull 118 with 4 deaths and Dennis 71 with a single death Weir, Halsted and Powers have reported series of 125, 76 and 50 respectively, without a death Curtis gives the average mortality of the leading German surgeons as 6 per cent though many operations done before modern methods were practiced are included

The English (Butlin, Treves, Williams and others) place the mortality as high as 10 per cent This can only be reconciled with the rather less than 1 per cent of six American surgeons on the score of many operations being included which were done at a time when breast excision was properly ranked as a dangerous measure Erysipelas, sepsis secondary hemorrhage, etc, claimed their victims by hundreds The matchless Billroth years ago admitted a death rate in his own practice of 23 per cent

We can only contemplate such figures now with feelings akin to horror—as an aseptic operation in skillful hands is to day practically devoid of danger We conclude with the following summary

1 Mammary cancer, submitted to operation before infection of the axillary glands, should promise 50 per cent of cures

2 Although the axillary glands seem not to be involved, the axilla should be opened in every case and thoroughly cleared of glands and fat

3 Infected axillary glands are of bad prognostic import, but a radical operation which removes them and at the same time the supra clavicular glands may cure 11 per cent of such cases

4 The complete operation should be practiced in every case of malignant disease

5 The mortality following the complete method is doubtless somewhat greater than it is in partial operations The difference in results, however, is so conspicuous when the question of "cure" is considered, that the radical operation is the only one to be countenanced

6 Statistics gathered many years ago are as valueless as those made use of in estimating the mortality after amputation of the extremities

7 The mortality will probably be not more than 2 or 3 per cent with the average operator We have shown it to be less than 1 per cent in over 600 cases operated upon by six American surgeons

EXTIRPATION AND COLOTOMY IN CASES OF CANCER OF THE RECTUM

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7 10 1895

BY LEWIS H ADLER JR, M D

PROFESSOR OF DISEASES OF THE RECTUM PHILADELPHIA POLYCLINIC AND POST GRADUATE SCHOOL SURGEON TO THE CHARITY HOSPITAL, AND TO THE OUT PATIENT DEPARTMENT OF THE EPISCOPAL HOSPITAL PHILADELPHIA, PA

Colotomy and extirpation are two recognized procedures for the relief of malignant disease of the rectum Both operations offer to the patient a chance of prolonging life and, in addition, extirpation holds out the possibility of effecting a radical cure, in selected cases

The choice between these two methods is a question of uncertainty only in a relatively small group of cases, and extirpation is not to be considered in the majority of instances, for the reason that the disease is usually an incurable malady, and by virtue of its concealed position within the rectum its presence is not revealed or even suspected until the growth has existed for some time Furthermore, it is rare for cancer of the rectum in its incipiency, to manifest itself by any symptom pointing to a lesion within the bowel This is a familiar observation to all surgeons

It frequently happens that a patient comes to us complaining of some slight diarrhea or other mild rectal trouble, and an examination unexpectedly reveals the fact that cancer is present to such an extent that it is obvious the neoplasm has existed for a considerable period Consequently, its complete removal is often rendered impossible Again, the patient's vitality is such that so grave an operation and one requiring the length of time for its performance, as an excision, is contra-indicated

In arguing thus, I would not convey an impression that I am opposed to extirpation for malignant disease of the rectum in suitable cases, on the contrary, I firmly believe it to be a perfectly justifiable operation when the growth is circumscribed and confined to the lower five or six inches of the bowel, provided, however, that the tumor does not involve all the coats of the intestine, that it has not attacked the viscera which are intimately associated with the anterior wall of the rectum, that it has not invaded the pelvic glands, or, by metastasis any of the other organs of the body, and finally, that its growth be not rapid or have a tendency to spread widely From these considerations, it naturally follows that the number of patients who can be benefited by excision of the disease is comparatively small

Colotomy, on the other hand, is indicated in a large number of instances, where it is quite impracticable to attempt an excision The advantages of the operation lie partly in the relief it affords to symptoms and partly as a means of retarding the growth of the neoplasm

To indicate the relief afforded such patients by a colotomy, I can not do better than quote the opinion of Kelsey on this subject as, expressed in the fourth edition of his work "Diseases of the Rectum and Anus"[1]

This authority is not only a strong advocate of the operation, but is also in a position to judge of its merits by reason of his large experience He thus states his views "As to the benefits arising from the operation, too much can scarcely be said That it prolongs life by the relief of pain, the preventing of obstruction, and retarding the growth of cancerous disease is beyond question That it substitutes in many cases a painless death for one of great agony is indisputable The idea that it is as well to let a patient die as to subject him to a colotomy has no supporters among surgeons who have had any experience with these cases Indeed, I think that the practitioner who to day sat by and allowed a patient to die of obstruction because of any sentiment against this procedure would hardly be held blameless I can only say that, after trying every other means of treatment and being obliged to admit the fruitlessness of them all, I have come, with most others, to admit the great benefits of colotomy, and *have never performed it in any case in which either the patient or myself has afterward regretted it*" (Italics mine)

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[1] Pp 409 and 410

In another article,[2] Kelsey mentions even more minutely the advantages of this operation, as follows "Colotomy, especially inguinal colotomy, relieves pain, does away with the constant tenesmus and discharges from the rectum, which by their exhausting effects are the immediate cause of death, delays the development of the disease by preventing the straining and congestion of defecation, prevents absolutely the complication of intestinal obstruction, which is another cause of death, enables the patient to sleep, eat and gain flesh, and often makes him think himself cured in spite of the plainest prognosis to the contrary Instead of passing his days and nights upon the commode, wearing out his life in the effort to free the bowel from its irritation, he has one or perhaps two solid fecal evacuations from the groin in twenty-four hours "

In conclusion, I would like to allude to one more topic, to-wit the choice of sites of opening the colon I mention this subject with the sole purpose of eliciting the present views of the members of this society My own belief is that the inguinal region is to be preferred in the majority of cases Its advantages over the lumbar operation are, to my mind

1 The smaller incision and lesser depth of the wound requisite to reach the colon, and the minimum amount of disturbance of the structures overlying the seat of operation,

2 The greater facility offered for the exploration of the abdomen, when such a procedure is required,

3 The better position for safe anesthesia, during the operation,

4 The comparative ease with which the colon may be identified in this position, and the little difficulty experienced in fixing the bowel to the skin without undue tension on the stitches,

5 The greater readiness with which a good spur may be formed,

6 The convenience to the patient of the site, for purposes of cleanliness and for the adjustment of pads, and

7 The recent statistics seem to indicate that it is the less dangerous operation

1610 Arch Street

Influenza and Life Insurance —At a meeting of one of the large English insurance companies it was shown that more than six hundred thousand dollars had been paid out for deaths due to influenza The report of the Secretary showed that this disease has cost the insurance companies more in the last two years than in the previous forty-three years

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IS TOTAL EXTIRPATION OF THE RECTUM EVER JUSTIFIABLE?

Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md , May 7-10, 1895

BY JOSEPH M MATHEWS, M D
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In giving the above title to my paper the fact is indicated, at least, that such a procedure is advised, and I may add, is strongly recommended by many With true deference to all such, I shall raise the question as to its *justification*, and will try to adduce sufficient reasons for putting the question in the attitude of being mooted It can not be gainsaid that some, if not many surgical operations, are done with but little to recommend them In this age of progress in surgery, I opine that some of us are led astray into doing operations as much to test the efficacy, methods, etc , of others, and to put ourselves in line, as to accomplish that which should be the surgeon's chief aim, viz , to relieve the patient It can not be denied either that there is what might be properly called a *rage* in surgical work, and it behooves us as surgeons to occasionally take a breathing spell, and look backward over the field, if not over the dead I am quite willing to admit that conservatism in surgery may oftentimes mean early and complete operations, but it must be admitted that he is the best surgeon who has studied well his subject from all standpoints and is ready for any emergency

To operate or not to operate, is often the question, and much responsibility rests on the decision If the eager, ambitious, aspiring young surgeon could have in his time of need, the advice of his cooler-headed elder brother, who has met with many a danger, what a blessing! We are much given in this country to copying after our European brethren, even to their vagaries, in both medicine and surgery New instruments, new operations, new books, new everything, is the cry with us, and we don't stop to think whether they are any improvement over the old or not Oftentimes, too, the *original* operation is far preferable to the so called modification of the same With these remarks as a preface, I desire to call your attention to the question propounded in the title of my paper, Is total extirpation of the rectum ever justifiable? Very naturally you will say, Why, I thought that question had been settled, and that most authors recommended such an operation under certain conditions You might add in truth that Mr Kraské had designed his operation especially for this purpose To both propositions I answer, quite true But in the same breath I would beg to ask, Is the operation justifiable? An operation might be designed which would demonstrate the fact conclusively that the liver could be easily and dextrously removed There are two propositions that I would submit for argument in reasoning against the advisability of the total extirpation of the rectum for any cause

1 Is the patient ever cured of the trouble operated for, by said operation?

2 Is the patient ever materially benefited or relieved by the operation?

I beg to take the negative to both propositions

1 I take it for granted, that the only cause for which it could be said that total extirpation of the rectum should be practiced is malignancy I use the term here as synonymous with cancer We note,

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[2] New York Medical Journal for November 1892

then, the characteristic features of malignancy as the disposition to grow, to ulcerate, to infiltrate and to propagate It is an aphorism well known in surgery, in cases of cancer, "to operate early if you desire success" All teachers too, know how assiduously they teach the student to do a *thorough* operation, and "cut wide of the mark" whenever dealing with this character of tumor ' For instance, when removing malignant growths of the breast, how important it is we say to remove the glands in the axilla also Again, how insidiously does a malignant tumor invade the system, and establish a cachexia How difficult to tell the dividing line between a local condition and a general infection Add to this the suspicion always that the tumor has likely propagated

These questions are difficult of solution even when the growth is situated in or upon the external parts How much more difficult when located in an obscure part of the anatomy as is the rectum Cancers found here are so stealthy in their growth and invasion of tissue that oftentimes the whole rectum is blocked by the mass, when only symptoms of constipation and some reflex pain are complained of The tissues surrounding this portion of the gut are soft and easy of invasion, the blood circulation is great and the lymphatics are freely distributed The contiguous parts are vital ones, the bladder, the peritoneum, the prostate gland, the vagina in the female are all easy of invasion By the time that a growth in the rectum has assumed sufficient proportions to be diagnosticated as cancer, many of these parts are already invaded by the process of infiltration To dissect and draw down the rectum in the normal state may be comparatively an easy matter, but to completely dissect out a rectum that is so pathologically changed, as in a cancerous growth, is nearly a physical impossibility Beside the difficulty of accomplishing its free dissection, it is one of the bloodiest operations that I have ever attempted Admit that it can be successfully done, I would ask what amount of good accrues to the patient? Infiltration is clearly proved by the amount of adhesion that is witnessed Can we, now, "cut wide of the mark?" I believe that every surgeon present will concur in the opinion that to make the operation complete, all glands in the inguinal region should be removed But what about the infiltrated tissue left in and around the rectum? It does not require very much dissection to draw down the natural gut Sever its connection at the anus, and it can be pulled down But it requires a long, tedious, and free dissection to remove the cancerous rectum What, I again say, shall we do with the injunction to "cut wide of the mark?" It can not be done without invading with the knife the vital parts mentioned, nay not then Then of what use is the operation? A bloody procedure, rectum gone, and infiltrated tissue left Would any sensible surgeon dissect out a cancer in the breast and cover the wound with infiltrated flaps? Why, then, should a surgeon dissect out a cancer of the rectum and leave infiltrated tissue? How can he prevent it, or how is he to know that infiltration into the adjacent tissues has not taken place?

It is nearly self evident from the clinical history of all these cases and from the pathologic changes, that such condition does exist A cancer of the rectum in its incipiency is very difficult to detect, and is rarely seen by the surgeon in this stage If it invades the anal orifice first, this rule does not hold good but no surgeon is likely to remove the enti rectum for a growth at the anus It must be ad mitted that it is in the incipient stage of cancer th an operation would be most justifiable And yet for nodule along the course of the rectum, any surgeo would hesitate about removing the whole rectu Then if it is not justifiable to totally extirpate th rectum for a circumscribed or incipient condition o cancer, is it justifiable to remove the same after ad hesions, infiltration and a cachexia has been estab lished When I would ask, is total extirpation of th rectum justifiable?

All malignant growths affecting the anus fir should be removed if seen at the proper time If growth of this kind is situated in the immovable po tion of the rectum and has not extended higher tha this or has not invaded vital structures, the surgeo can remove it, observing the injunction to "cut wi of the mark But this is a very different thing fro removing the entire rectum and that too, when n promise can be given I have written this paper afte a fair trial of all methods proposed for the total ex tirpation of the rectum But as I have usually see these patients go on from bad to worse, I must confess that some remorse of conscience has overtake me when the question stared me in the face, why I di so formidable an operation, when in truth there wa no good surgical reason for doing it This is an unfortunate class of patients the most unfortunate o all, and they do indeed catch at straws They nee our fullest sympathy, and nothing less than a fir conviction that we can either cure, or materially benefit them, should lead the surgeon to do so radical a operation as the total extirpation of the rectum Ca we promise either? I think not

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THE CAPACITY OF MEDICINE

The Doctorate Address to the Graduating Class of the College of Ph sicians and Surgeons, Chicago April 2 189

BY WM ALLEN PUSEY A M M D

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The man is fortunate who has a high conceptio of his life work In this respect, at least as regar the humanitarian aims of his profession, the docto is usually fortunate I believe it is the rule that th doctor has a conscious pride in the high purposes o his profession, I believe it can be said, without exaggeration and without straining the truth, that th doctor usually approaches his work with a realizin sense of his duties and of his heavy responsibilitie Often—oftener I believe than most men—he is an mated by lofty ideals and sustained in a career o heavy responsibilities and, perhaps, unrewarded endeavors by the approval of his own conscience fo doing, as well as in him lies, the work that comes t his hands I believe, too, it can be said with truth that he does not usually have to depend upon th approval of his own conscience for his sole rewar For the world at large is usually ready to applau him for his good work and to praise him for his charity and his humanity In fact, excepting here an there a soured pessimist or a fanatical anti vivisectionist, who would cast upon us all the anathema of the damned because we sometimes kill dogs an guinea pigs in order to save babies—excepting thes I say, I believe the world in general gives us cred for high purposes and for untiring efforts in beha of mankind. Indeed, one sometimes fears that they emphasize the goodness of our intentions and our charity and benevolence, because they feel that in these they have the safest grounds upon which to praise us, just as at times one calls a man a good man, when little else can be said in his favor. For it is undeniable that medicine has to stand a good deal of patronizing and condescension, particularly from people who imagine themselves progressive and from those workers in other departments of science, who, knowing only their own fields, imagine that they possess all there is of scientific merit. Every once in a while some innocent seeker after truth wants to know, "If medicine is a science?" We are reminded of the advancement of other arts and sciences in this century, and are asked in a hopeless sort of way if medicine has anything to offer commensurate with these. We are not allowed to forget that medical opinions have changed from time to time, that the doctrines of one period have given way to different doctrines of another, and that even now doctors disagree, just as if these things were the unique characteristics of the medical profession. And the intimations are not uncommon that medicine, while perhaps advanced in theoretical knowledge, is behind in practical realization, that, to paraphrase Montaigne, it has always known its Galen, but does not yet know its patients, that it has always been full of fruitless promises, but has given to the world little of useful results or of stable truths of practical value.

This mild and perhaps well-meaning skepticism is widespread, and finds expression in various forms. It is not enough to say in reply that the most cursory consideration demonstrates the falsity of such statements, or that scientific medicine is too strong to be affected by the impressions of the half-educated or the judgments of the inexpert. The man, who is in touch with his surroundings, can not be insensitive to such influences, and I question if the doctor is fortunate in his complacency who has not at some time asked himself how much justice there is in these imputations. Indeed, the doctor who starts out with enthusiasm for his profession and with high conceptions of its usefulness will probably, for his own satisfaction, do well to ask himself the questions to which such aspersions give rise. And to ask ourselves these questions now. What, really, is the position of medicine? Can medicine pretend to stand on an equal footing with the other physical sciences? Is it worthy of a place beside chemistry, or physics, or mechanics, as a science, or beside electrical, or mechanical, or civil engineering, or manufacturing chemistry as a technical profession? Or, to put it practically can medicine show any solid contributions to useful knowledge in the last hundred years comparable to the much vaunted contributions of steam power, of electricity, or of mechanical invention? Has medicine shown in the past, or does it show now, an ability to meet its obligations and to fulfill the demands upon it equal to that of the other arts and sciences? And now on the verge of this twentieth century, can medicine pretend to prospects of usefulness and development as promising as those of any other of the physical sciences?

These questions suggest themselves with more or less distinctness to all of us at times, and it may not, therefore, be unprofitable to consider for a few minutes the position and the capacity of medicine as shown in its course in the century now drawing to a close.

The nineteenth century, in respect to the progress of the physical sciences and the development of useful knowledge and inventions, is a period marvelous to contemplate. When one reviews in his mind what had been done in these departments of knowledge before 1800, and what has been done since, he finds it difficult to characterize the period without apparently indulging in the grossest hyperbole and exaggeration. The wildest imagination of a hundred years ago could not have faintly conceived the progress which this century would witness. This century has, in fact, reaped the harvest of the Renaissance. Perhaps it would put it more accurately to say that this century represents the entrance of the physical sciences into their period of adult vigor. All that had gone before, since the revival of learning—and practically nothing before the revival of learning is of any consequence in the physical sciences—represented the period of preparation.

At the end of the last century the times were ripe for advancement. Awe of tradition, even respect for the established order of things had vanished. Revolution was in the air. The spirit of unrest and of independence, of rebellion against privileged classes and arbitrary authority that had begun with Luther in religion and Galileo in science, that had driven the Puritan pilgrims to America, and had produced a Cromwell in England, had finally resulted in an American rebellion, and the establishment of a government by the people, and had reached its climax in the awful upheaval of riot and license of the French Revolution. The established order of things had lost its sanctity. Men were ready to prove all things, but to take nothing on faith or on tradition. And that is the true spirit of science. And, moreover, science and art suited the spirit of the times, in that they represented an aristocracy of intellect in contra-distinction to an aristocracy of birth. The times were, in fact, as ripe for a revolution in knowledge as they were for the civil and social revolutions that were occurring.

And yet one at that time, looking for indications of the future, would have found little positive material on which to foretell the advancement of this century. Of the pure physical sciences, astronomy was the only one that had reached a condition of anything like completeness. Of the broad generalizations that are at the same time the glory and the very foundation of physical science none, except Newton's law of gravitation had been worked out. Laplace was just indicating the fascinating but uncertain hypothesis of the nebular origin of the solar system. Dalton had not yet enunciated the atomic theory, upon which modern chemistry has been built. Schwann had not yet demonstrated the cellular structure of vegetable and animal tissues, which is the very basis of modern biology. And more than half the century was to pass before Darwin promulgated the doctrine of natural selection, which has given to the world a new conception of the order of development of living things. Perhaps the most important generalization of physical science, Joule's law of the conservation of energy, which permeates every conception of modern science, was to wait for its enunciation until after the middle of this century. Newton's corpuscular theory of light and the conception of heat as due to a vague "caloric" still prevailed. These facts in their bare statement convey no impression of their momentous importance Unverifiable hypotheses, as some of them are, they are nevertheless the very foundation of modern science, and the times when they did not exist are times in science that you and I can only realize by a strong effort of the imagination

And if pure physical science, as we know it to day, was thus undeveloped the mechanical arts and the practical applications of science to the uses of civilization, which are the peculiar characteristics of our times, were even more so Watt had but recently made the steam engine into a practical servant of man and its usefulness was not yet established The first steamboat had not been built, and as for railroads, the memories of men now living take them back to the time when Stephenson's "Rocket" demonstrated the practicability of a steam locomotive The spinning-jenny, the automatic power loom, the cotton gin of Eli Whitney—these three fundamental inventions, which have rendered possible the vast textile industries of modern times—had just been invented, and that other boon of laboring women, the sewing machine, was not to come for fifty years The electric telegraph had hardly been thought of, and its invention was away in the future, and as for the possibilities of submarine telegraphy, of electric lighting, of photography, or of transmitting the human voice by electricity, who could have dreamed them a hundred years ago?

A hundred years ago men were, in fact, as regards mechanical inventions, much in the same place that they had held from the earliest civilization They cleaned their cotton and carded their wool, they spun and wove and sewed, they harvested and threshed their grain, they lighted their houses, they sent messages, and traveled by land and sea, in practically the same ways that men had done a thousand or two thousand years before The list in fact could be indefinitely continued All the inventions of mechanics, all the applications of physical science to the uses of man, that have made the forces of nature man's servants, that have made intelligence dominant over force, that have welded the civilized world into a sentient whole, with community of interests and community of knowledge, all these, with few exceptions, are the inventions of this century Could anything be more marvelous than this progress? If medicine had not kept pace with the other departments of physical science in this century would it be a reproach, considering the infinitely delicate and confusing problems which biology and pathology and medicine proper have to solve? But has that happened? Has medicine been outstripped by the other sciences in the nineteenth century? Can medicine, in fact, stand in a free and open comparison of this sort, or must it enter such a contest with excuses and apologies, and with such humility as befits the poor relation of a prosperous family? It requires, perhaps, a reckless degree of temerity to attempt such a question, but let us, as best we can, consider it for a little while

At the end of the last century, medicine was able to give a good account of itself The pressing necessity of getting relief from pain and disease had started medicine on a career of usefulness before most of the physical sciences were born It could point to a history of investigation and of development along the best lines of knowledge of its times, as old as the revival of learning Beginning with pioneers in scientific research like Vesalius and Ambrose Paré and Harvey and Sydenham it had come down through a line of great observers to such masters as Petit and Bichat and the Hunters and Percival Pott and Jenner Through the labors of a long list of such men, medicine could fairly claim—in actual achievement and in positive knowledge—a position among the physical sciences as good as any Gross anatomy, after infinite work, had been brought to a state of practical completeness Surgery, at its beginning an appendage of anatomy, had attained a degree of skill in which it could claim to meet the reasonable expectations of its times Operative surgery was highly developed The great operations have come later, but the ordinary surgical procedures—amputations, the treatment of fractures, the ligation of arteries, and like surgical operations were carried out with intelligence and technical skill And better than that, men like John Hunter and Pott and Desault and John Bell, were studying the pathologic processes at the bottom of surgical conditions, and were developing a practice of surgery founded upon principles—were indicating the way to a rational practice of surgery, in which surgical procedures would be carried out in the light of a correct understanding of underlying pathologic conditions In medicine proper the phenomena of disease had been accurately observed and recorded, systemization and classification on a clinical basis had been well done, and diseases had been studied carefully and philosophically for two centuries Most of the diseases which we recognize now as clinical entities had been differentiated and well described, and the best lines of their management in the light of existing knowledge had been carefully considered Pathology had been founded by Morgagni, and physiology had made a correct start under Haller in the middle of the eighteenth century

But the enumeration can not be carried much further The science of medicine as we know it now, built upon accurate data obtained with instruments and by methods of scientific precision, did not exist Without any adequate conception of the functions of the various organs, without knowledge of the microscopic anatomy of diseased tissues, without accurate instruments for the investigation of the various elements of disease, medicine, as we know it now, could not exist What, for instance, could be known of the composition of body secretions when Priestly had only just discovered oxygen, and fifty years before Liebig and Wohler had indicated the possibilities of organic chemistry There was no adequate knowledge of the functions of any of the organs Schwann had not yet indicated the ultimate cellular structure of animal tissues Charles Bell had not demonstrated the difference between motor and sensory nerves Marshall Hall had not discovered the reflex functions of the cord And Claude Bernard, who was to discover the vasomotor system of nerves, and demonstrate their enormous importance in the nutrition of the tissues, was not yet born Bichat had just indicated the possibilities of pathologic and normal histology His superlative genius had carried the subject probably as far as the appliances at his command would allow—for the microscope when Bichat died in 1802 was little better than a toy—but in spite of such geniuses as Bichat and Morgagni before him, a real science of pathology, a thorough going investigation into the pathologic factors of any disease, did not exist, could not exist in the very nature of things As for exact methods of studying disease, there were none Physical diagnosis had not been discovered Auenbrugger had discovered percussion as a means of diagnosis fifty years before, but no attention had been paid to it Laennec had not yet given to the world the method of auscultation or the stethoscope, and as for the other instruments of precision in physical diagnosis, the ophthalmoscope, the laryngoscope, even the duck-bill speculum, and all the minor instruments of diagnosis were as yet unheard of On the practical side, obstetrics was still in the hands of midwives, and to any one who knows the horrors of ignorant midwifery, could there be a more beneficent example of progress than obstetrics to-day presents? Surgery, in spite of what it had done, was still merely operative, it could only cut off what it could not cure It was hopelessly handicapped, it could not annul pain during operations, and it could not prevent the ravages of septic infection after operations In therapeutics all was of necessity dark The lancet, the purge, and the blister were the main reliances Excepting opium, all the list of invaluable remedies that soothe the body and relieve pain, all the alkaloids that make exact medication possible are the products of this century Morphin and chloroform and ether, chloral and the bromides and, of course, all the synthetic anodynes, quinin and the iodids, and salicylic acid, aconite and ergot, corrosive sublimate and carbolic acid are all the products of a later time

That was the condition of medicine at the end of the last century It needs no prolonged comment to point out the contrast between medicine then and medicine to-day In the century that has passed medicine has put itself in such a position that it can attack any question of disease that confronts it with intelligence and with a clear appreciation of the problems that must be solved All of the fundamental subjects, upon which the existence of rational medicine depends, have been worked out to a condition of nearly satisfactory completeness The work in none of them is ended, for science is never done, but it can be said, in full view of the facts, that only minor details are to be worked out in the fundamental branches of medicine Physiology has established with certainty and precision the functions of the body We have definite and almost complete knowledge of the conditions of the tissues in health and in disease The processes of pathologic anatomy that underlie diseases have been so thoroughly worked out that only rare and extraordinary conditions remain to be investigated Physiology, biology, normal and pathologic histology are in a state of practical completeness The minor problems that they have yet to solve merely indicate the high state of knowledge which these subjects have reached

Clinical medicine is in a position of definite knowledge The natural history of disease has been worked out with an accuracy that could not have been foretold Symptomatology, it may be said without exaggeration, and the differentiation of diseases and groups of diseases have been so sharply and clearly marked out that little more can be expected But medicine has gone further than this As is the case in any kind of research the consideration of one set of problems has suggested others, and medicine has solved, and is solving, problems of the most momentous importance to mankind that were beyond the scope of the imagination a hundred years ago Medicine is obtaining an insight—and not a speculative insight, but a positive insight based on sensible fact—into the intimate causes of disease that no man could have foreseen even fifty years ago Medicine has gotten to the point where it can say of many important diseases—and the list is rapidly increasing—"This is the cause of the disease, without it the disease can not exist" And it can not only affirm that these are the essential causes, but it can take these essential causes and separate them and study them apart from the diseases which they produce, can accurately work out their life histories, can carry them through generation after generation of pure cultures, and can then complete the demonstration of their essential causal relationship by reproducing the diseases from their pure principles What a contrast to the times when men were seeking a universal explanation of disease in plethora, or in congestion, or in any other of the indefinite conceptions with which they juggled in the eighteenth century! And medicine is doing even more than this, it is not only demonstrating these positive causes of disease, but it is separating from them the principles which are the source of their pernicious activity It is studying these elementary causal principles and already, with positive assurance, is indicating the methods by which their effects can be overcome There is no science that can show more brilliant investigations than these

These investigations—in themselves purely scientific—have already borne results of almost inconceivably great practical value The demonstration by Lister that the formation of pus is caused by the presence of microorganisms and that it can be prevented with mathematical certainty by their exclusion—this demonstration, which resulted in the founding by him of antiseptic surgery, has probably done more for suffering humanity in twenty years than all the uncertain charities of twenty centuries It has made curative surgery practicable, it has shorn child-bed of its greatest danger it has banished erysipelas and hospital gangrene from surgical wards, it has relieved the wounds of the battle-field of the dangers and tortures of septic infection—that specter of surgery that probably killed more men in our Civil War than all the bullets of that unhappy time And Lister's application of bacteriology is but one example of what has been done Cholera and yellow fever visit us no longer With proper precautions no man need have typhoid fever—and a hundred years ago typhoid fever had not been described Lockjaw is under our control, and hydrophobia is robbed of its victims. Proceeding along lines not bacteriologic, medicine has overcome myxedema, it can practically call back to health the obtunded victim of that miserable disease It can even bring the sporadic cretin to a condition of passing intelligence, and certainly there is no object that would seem to be further beyond the possibility of medical skill than the hideous, drooling, idiotic dwarf, who is the victim of congenital myxedema And we are not confined to these spectacular instances for illustration of what medicine can do Medicine can claim to-day to take hold of disease with an accurate knowledge of its natural history and of the underlying conditions that produce it, and on a basis of such knowledge, if it can not do the impossible and prevent what has already occurred, it can claim to manage disease with a clear appreciation of the conditions to be met and of the contingencies to be provided for Can any science do more? Could any more be expected?

Medicine, indeed, has reached a position of positive achievement in which it can court comparison with any of the arts or sciences And it now stands in a position of promises almost realized that offer to suffering humanity benefits almost beyond comprehension Huxley in 1887 writing upon the advance of science during the Victorian era, in speaking of medicine, said in words that sound now almost prophetic "One century since, smallpox was almost as great a scourge (as the plague) Science, though working empirically and almost in the dark, has reduced that evil to relative insignificance At the present time, science working in the light of clear knowledge, has attacked splenic fever and has beaten it, it is attacking hydrophobia with no mean promise of success, sooner or later it will deal in the same way with diphtheria, typhoid and scarlet fever " The spirit of Huxley's prophecy is being fulfilled as regards many diseases As regards diphtheria, it looks now as though the prophecy was already fulfilled There is a good deal of reason to believe now that diphtheria has been conquered And to the man who has seen the ravages of diphtheria, what greater evidence could there be of the advancement and capacity of medicine than the fact that medicine is to day in a position in which it can seriously hope to produce a specific for that dreadful disease

Can there be any question of the capacity of a science that has such achievements as these to offer? Has any other department of knowledge done better? Can electricity even with its marvelous history show results any more startling? It would seem indeed that the branch of knowledge that has produced modern physiology and biology and pathology, that has discovered the essential causes of tuberculosis and leprosy and cholera, that has given to the world such men as Helmholtz and Virchow and Koch and Joseph Lister and Joseph Leidy—it would seem that that branch of knowledge would need no defense against the charge of being unscientific It would seem, too, that that same science, that began the century with a discovery that has practically banished smallpox from civilized communities, and is ending the century with discoveries that promise to give us control of some of the worst scourges that afflict mankind, that has given the world immunity from pain under surgical operations, and has produced antiseptic and conservative surgery, that has banished from us scurvy and cholera and yellow fever, and that, on a basis of accurate physiology and pathology, furnishes a rational treatment of disease—it would seem that such a science would no more need a defense against the charge of being impracticable and barren of useful results

Indeed, I believe we may be pardoned for thinking that medicine is not the poor relation of any scientific family

103 State Street

The Chicago Department of Health issued, in June, a circular on the care of infants and young children in hot weather, which can be had in quantity by physicians, at that office It gives directions regarding food and cleanliness that in many instances will be of value and assistance to the physician and is intended for distribution to the laity —*Chicago Medical Recorder*, July, 1895

REPORTS ON TYPHOID FEVER CONTINUED

NO VIII

Read before the Ohio State Medical Society, Columbus Ohio, May 17, 189

BY JOHN ELIOT WOODBRIDGE, M D
YOUNGSTOWN OHIO

(Continued from page 79)

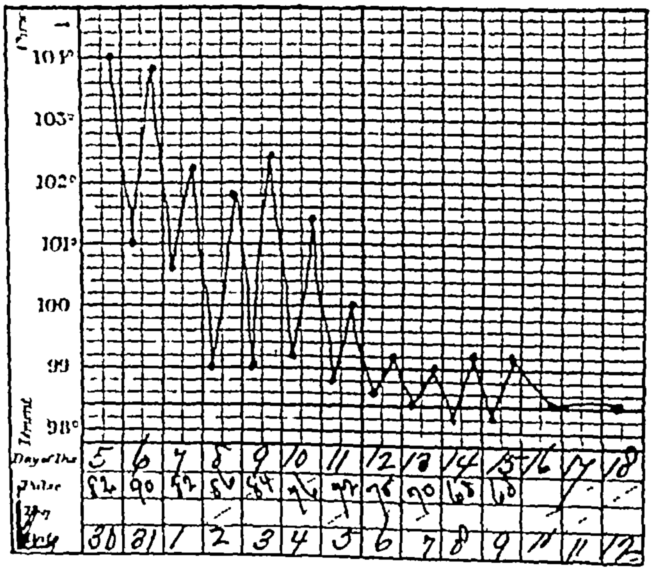
Dr E J March, of Canton, Ohio, sends me the following letter with the charts, which are marked, "Dr March's Cases, Harry W , and Sadie J "

"CANTON, OHIO, April 26, 1895

"*Dr J E Woodbridge*,

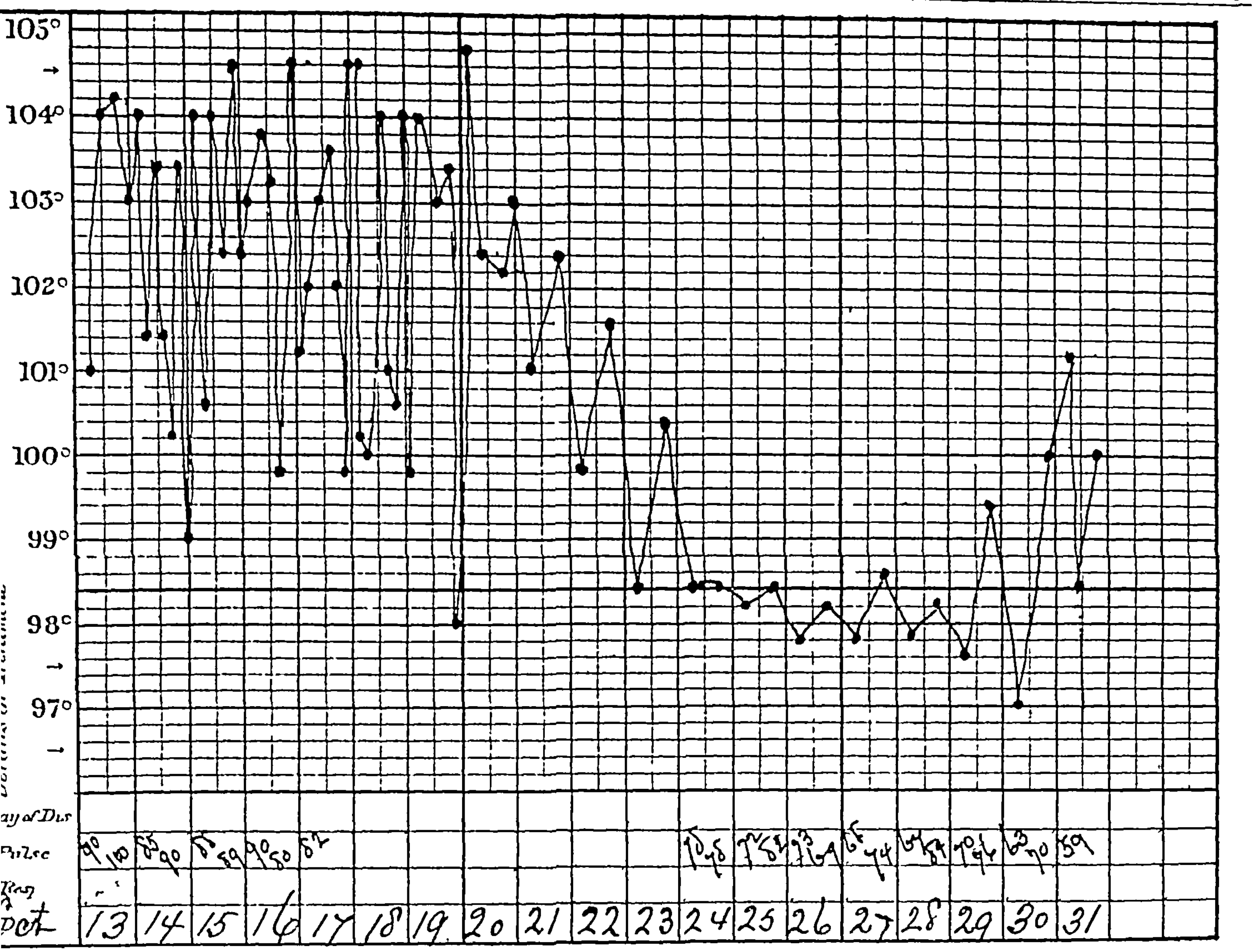
"*Dear Doctor* —An apology is due for my long delay in giving you the reports of some of the cases of typhoid fever which I have treated with the medicine you furnished so kindly I have simply postponed it from time to time, till this A M , I saw a report of your cases in P D & Co's 'Therapeutic Notes' Inclosed find detailed treatment and temperature charts of two cases The first of them, Mr W , was to my mind a typical case The second Miss J , a trained nurse, came from a family all of whom had typical and severe attacks, at which place she contracted the disease She came back to Canton and asked me to give her the 'Woodbridge treatment,' as she had nursed my first case, and was much taken with the results obtained in it By the way, she had had large experience in the New York hospitals in nursing typhoid You will see the results as per charts inclosed I had two other cases as well marked and typical as these two, but both being in non-professional nurses' hands no notes or charts were kept, but they were convalescent in ten days' time The one, a woman about 30 years old, had come from the bedside of her brother who died of the disease, and she started in with a severe attack I am sorry I did not keep such a record as I could, myself, so as to add water to your wheel I have a friend here who has tried the plan of treatment, somewhat modified and says that the objection he has to it is that whereas he formerly made from $20 to $40 out of each case of typhoid, this cuts his bills down to less than $10 in each case Doctor, I feel sure that you are on the right track, and if we should have a run of fever in our hospital wards this fall, I will furnish you with some more charts and results Thanking you again for your courtesy,

"Yours very truly E J MARCH "

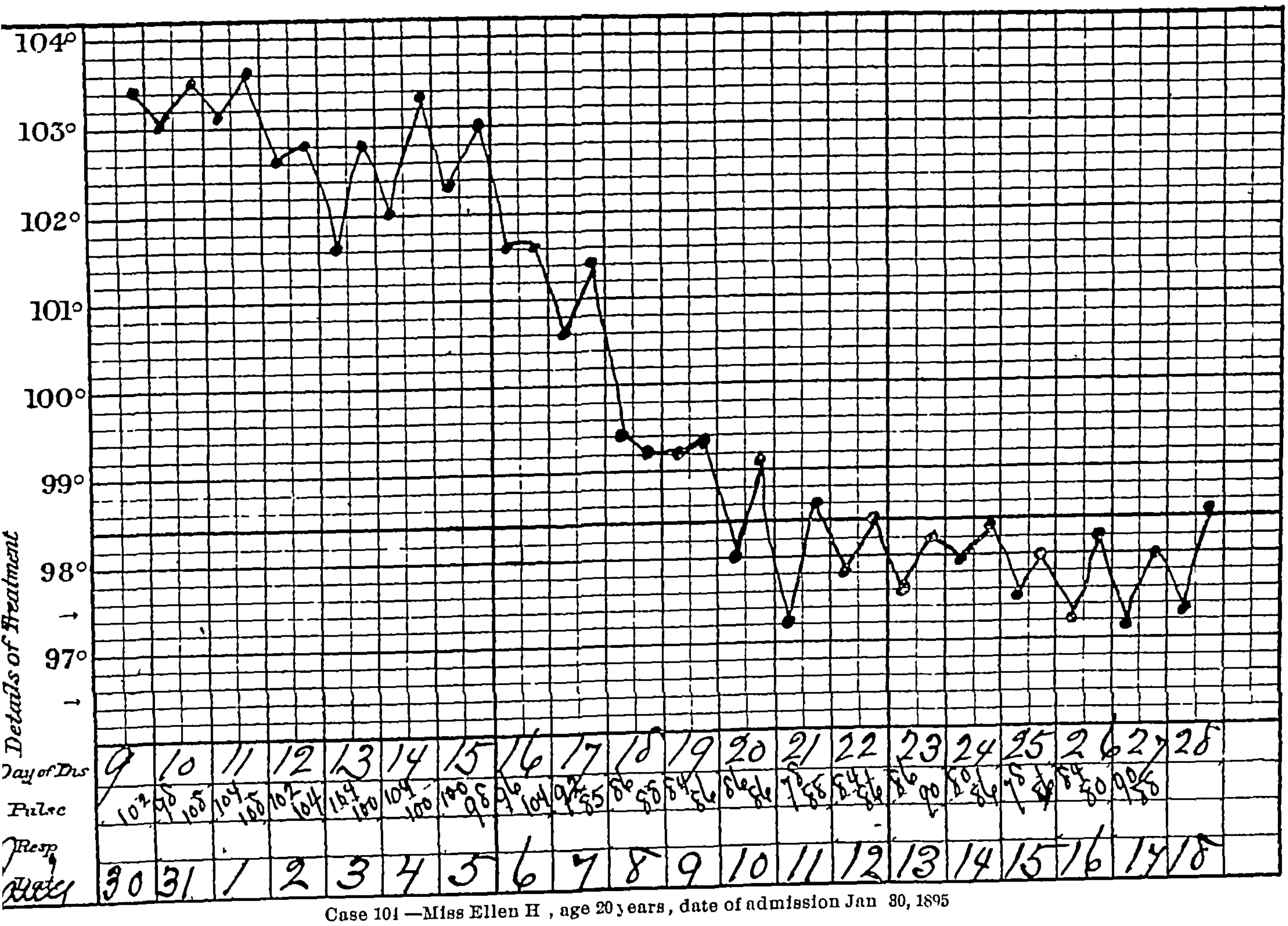


Dr E J March's case Harry W age 25 years native of United States occupation, tourist Diet, milk Treatment, 'Woodbridge's ' Result cured

I will now present from my own practice a few cases which ran a course similar to that of Dr Cunningham's Case No 3, with the exception of the unfortunate accident of the intussusception These cases represent not only most careful and positive diagnoses from the clinician's standpoint, generally verified by one or more physicians, but every pre-



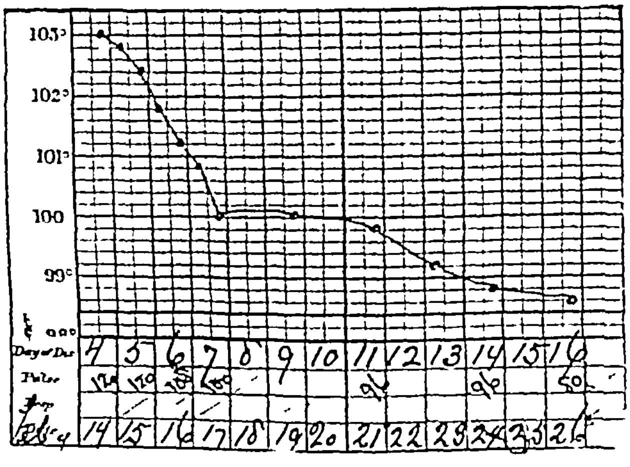
Dr E J March's case Sadie J , age 21 years, occupation, trained nurse, residence, Canton, Ohio date of admission, October 13, 1894
t, liquid Result, cured



Case 101 —Miss Ellen H , age 20 years, date of admission Jan 30, 1895 caution has been taken to reduce the errors of diagnosis to a minimum by calling to my aid every known means of excluding mistakes The diazo-reaction described by Ehrlich, and the microscope were appealed to, and in a large number of cases where malarial fever was suspected or had been diagnosticated, careful search was made for Laveran s hematozon

Case 106—Mrs McC , aged 70 years Was a feeble woman and one of five typical cases in one house When I first saw her on February 7 her temperature was 105 degrees pulse 140 Although she was reported to have been sick *only five days* she was delirious, her bowels were very tender, there was considerable tympanitic distension, rose spots were abundant, her tongue was thickly coated dry and brown Her temperature as you will see, had dropped to 99 degrees, her pulse 96 on February 13 after which her temperature was not taken, in a few days she was able to be about, and at the end of a week more she was able to be out of doors

Case 101—Lenore S aged 27 years (daughter of Case 106), residing in the same house with her mother When I first saw her on January 14 she had a temperature of 103 degrees, pulse 120, and all other symptoms of typhoid fever as characteristic as were those of her mother A few days later, January 17 her temperature was 100, pulse 100, and the general condition was so much improved that I have no record until January 21, when the temperature had been reduced to 99 8 and the pulse to 96 I saw her the last time on the 26th, and she was out in a week



Case 101 Lenore S 27 years date of admission Jan 14, 1895

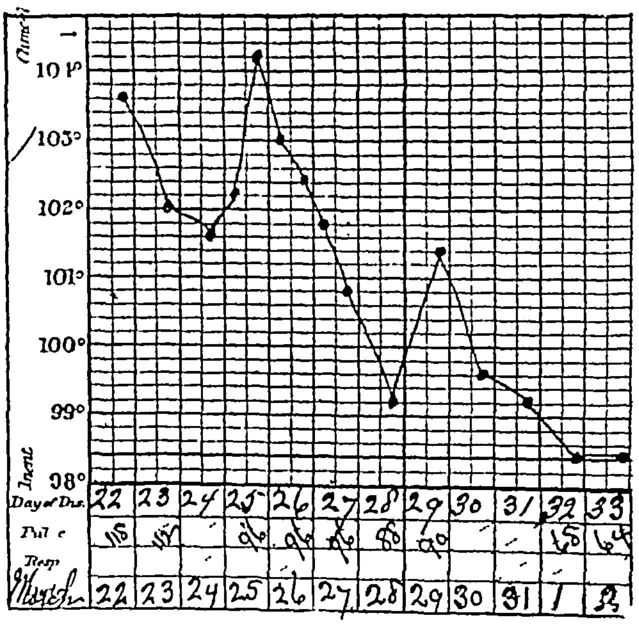
Case 108—Carolyn S , aged 2 years (daughter of Case 101) She was far from well on February 7, when I was called to see her grandmother, and on February 9 had a temperature of 105.2 degrees She was discharged cured on the 16th after nine days of treatment

Cases 107 and 109—Katie McC , and Jerry McC , aged respectively 5 years and 23 years (granddaughter and son of Case 106) These cases both showed decidedly characteristic symptoms of the disease, but recovered so rapidly that no records were kept

Case 115—John O'L , aged 28 years This young man was taken sick on March 1 and was treated by an irregular practitioner who called two other physicians in consultation after the patient had been ill twenty two days, during which time (according to the statements of the family) a diagnosis was made of la grippe, malaria, pueumonia and, finally of pneumonia with typhoid malaria On March 22, an unfavorable prognosis was given and I was sent for I found a typical case of typhoid fever, complicated with pneumonia His temperature was 103 degrees, pulse 118, and dicrotic, condition of nervous system very bad , he was sleepless and dilirious , abdomen was covered with rose spots , tympanitic distension enormous , bowels very tender , tongue very dry, brown and cracked , he was spitting blood and had three intestinal hemorrhages On March 25 *his* temperature was 104 7 However, his condition improved rapidly indeed, he was sleeping naturally, without hypnotics, on the second night, when he was no longer delirious Within three days his abdomen flattened out , the tympanites disappeared , his appetite returned and he declared that he was gaining strength on a milk diet On April 1 and the following day, the temperature being normal, he was discharged, cured Dr Cunningham, who is much interested in the abortive treatment of typhoid fever, saw the case with me, for the purpose of watching the effect of the treatment *He* pronounced it wonderful

Case 120—Mary O'L , (sister of Case 115, John O'L) I was called to see this case on April 24, and was given the following history she had nursed her brother through a very severe attack of the fever a month before During the latter part of his illness she had severe headache and general malaise About two weeks before I saw her, her headache increased , her back and limbs ached , she became dull and apathetic, and as her mother expressed it "Could hardly drag one foot after the other, she who was the most active and energetic of all the kith and kin " At this time she took the residue of the medicine I had left for another sister whom I supposed was taking typhoid fever (from which the sister recovered at once) after which she felt quite well for several days Six days before my first visit, the headache returned , the back and limbs began to ache , and all the characteristic symptoms of typhoid fever presented themselves , her pulse was 120 , her temperature was 104 9 , her tongue heavily coated , spleen enlarged , bowels very tender and tympanitic

I left her in the care of Dr Cunningham, on the ninth day of treatment, when I started to attend the meeting of the American Medical Association at Baltimore During my absence she had a very severe intestinal hemorrhage, but made a good recovery While Dr Cunningham was making his daily visits, a sister was taken sick with the fever and proper treatment was instituted early, so the temperature never rose above 103 5 degrees, and on the seventh day, when she was doing very well, her husband came home drunk and brought an irregular practitioner who very promptly decided that she had no fever It was very fortunate for his reputation that he was called in after Dr Cunningham had aborted the disease



Case 115 John O'L age 28 years, date of admission March 22 1895 Taken sick March 1 1895 confined to bed March 4 1895 spitting blood tongue dry, margins red, etc tympanites, hemorrhages March 23, 24 and 25 Catheterized March 28

Case 116—E S , aged 40 years (husband of Case 84) This patient resides about four miles from my office and he drove that distance to see me, about 1 o'clock each day He consulted me first on April 1, when I found his temperature 100 degrees, and pulse 112 Although feeling at times miserable, he was able to be out each day, as I advised , and on the 15th his temperature was 99 4 degrees, pulse 80, and his recovery was excellent

Case 114—Mrs Michael J , aged 32 years (This was the

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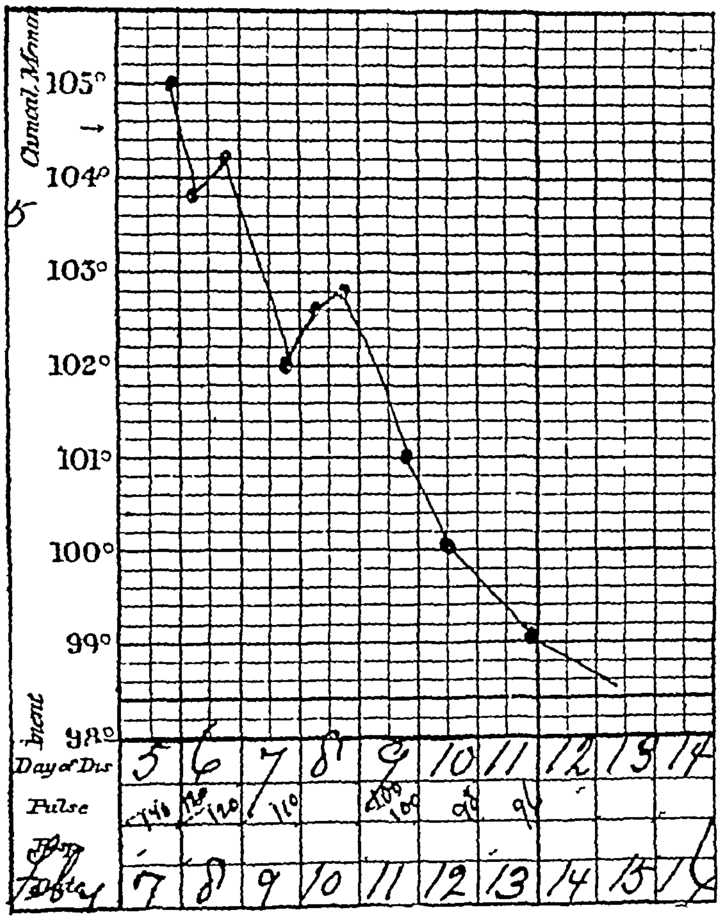
fourth case of typhoid fever in the same house at once, the other three cases will be reported in the paper which I read in the Section on Pediatrics, at the meeting of the AMERICAN MEDICAL ASSOCIATION at Baltimore.)

(A small son, Case 78, John J., and a little niece, Case 105, Annie W., had had the disease some time before.) The symptoms were not well defined and an absolutely positive diagnosis was not possible, but as all the family used water from a well which was supposed to be the source from which several other cases had originated she was treated as a case of typhoid fever, and assured that if the diagnosis were correct she would not be confined to her bed or be long sick or too sick to nurse her three children, who had the disease, as I had been able to treat her from the very beginning of her indisposition.

Case 110.—Frank S. This was a true ambulatory case and although the symptoms seemed to indicate that the patient was growing worse, his temperature being 103 degrees on the sixth day of the treatment, he felt fairly well after the first two or three days.

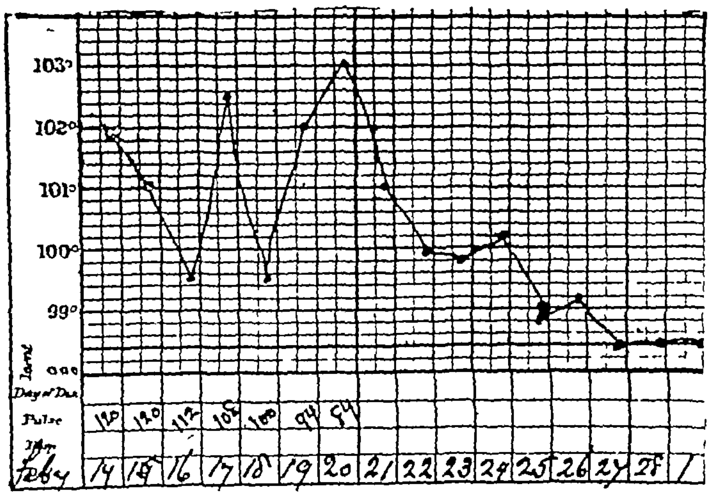
Case 118.—John S. This case showed premonitory symptoms of typhoid fever for more than a week before the patient consulted me. He drove to my office for a few days, with all the marked characteristics of the disease plainly to be seen, but finally had to go to bed for a week or more. The temperature ranged from 100 to 102.8 degrees for eight days, and he was discharged cured on the twelfth day.



Case 106. Mrs. McC., age 70 years, date of admission Feb. 7, 1895.

Case 117.—George J., aged 14 years. He came to my office on April 14, and called daily for four or five days, when his afternoon temperature was only 101 degrees, but his other symptoms were sufficiently characteristic to justify a diagnosis of typhoid fever. I soon discovered that he was not doing well and warned him of the danger of neglecting to follow implicitly my instructions, after which he improved for few days, but again grew worse. Sending for his father, I found that he had been left to take his medicine or not, as he chose, and choosing the latter, he had been casting the expensive medicine which I gave him into the cuspidor. I refused to have anything more to do with him, unless he were properly nursed, when his mother gave up her situation and gave him her care, but more than two weeks had now passed, and instead of being well as he should have been, his symptoms were all aggravated, his pulse 136, temperature 103.4, the tympanitic distension of the abdomen was enormous and his bowels were very tender and painful. Leaving him under the care of Dr. Cunningham, I went to Baltimore, and returning on May 13, the Doctor requested me to see him, saying that he was unable to control him. On several occasions he had stolen out of bed and secured bread and other articles of solid food, and once he was said to have eaten a pound of candy. I ordered him to be handcuffed to the bed, where he still remains but is nearly well.

Case 104.—Miss Ellen H., aged 20 years. Residing in a neighboring town, she had been sick ten days under the care of the family physician who, being one of those gentlemen who do not believe in the possibility of aborting typhoid fever, very naturally blundered in his diagnosis and treated her for la grippe, until about four days before I was called. At this time he corrected his diagnosis to typhoid fever, which caused no little excitement, as the other most prominent physician was and is an enthusiastic advocate of the "Woodbridge method." (He says, publicly, that no patient should die of typhoid fever.) Thus the friends of scientific medicine and the friends of "old fogyism" became partisans, and for days the young lady's mother, in her anxiety to save her daughter from death or needless suffering, was swayed from side to side. It would be hard to tell which party would have won had not the condition of the patient become alarming, for although the doctor was keeping the temperature down with acetanilid and sponge-baths, and was sustaining the heart with strychnin and digitalis, her mother could see that all was not right, and she at last telephoned to me to come down and meet the attending physician in consultation. I found both physician and friends exceedingly anxious about a "failing heart," a threatening danger which I assured them would disappear as soon as a little of the poison was neutralized. I discontinued all heart tonics and stimulants, and all medicine, in fact, except the three prescriptions which I have advised in former papers, and before I made my visit the following afternoon, all the ill omened heart symptoms had disappeared and the pulse had resumed a healthy tone. In two or three days all of the nervous symptoms, all of the tympanites, all of the abdominal tenderness were gone, never to reappear, and she was very comfortably sick, although, as you will see, the temperature did not touch normal until the eleventh day.



Case 110.—Frank S. date of admission Feb. 14, 1895.

In conclusion, I wish to say that an apology is due the large number of physicians who have reported cases of typhoid fever treated and aborted by the "Woodbridge method" which I have been unable to reproduce here or in previous papers for want of time—an unintentional and unavoidable discourtesy, since the twenty minutes allowed me in the medical societies, or the space in the JOURNAL would have been wholly inadequate to admit of the briefest possible mention of all of the valuable and valued reports in my possession. But every case reported is an object lesson to those who doubt the possibility of aborting typhoid fever, and will aid in hastening the day when death or long or severe illness will be unknown. Hence the medical profession is to be congratulated that it has in its ranks proficient men, able enough to learn the truth and brave enough to teach it.

TOXICITY AS AN ETIOLOGY OF NERVOUS DISEASES.

Read in the Section on Practice of Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY ALBERT E. STERNE, A.B., M.D.
PROFESSOR OF NERVOUS DISEASES AND CLINICAL MEDICINE, COLLEGE OF PHYSICIANS AND SURGEONS; CONSULTING NEUROLOGIST TO THE CITY HOSPITAL; PATHOLOGIST TO THE CITY DISPENSARY, ETC.
INDIANAPOLIS, IND.

Of all branches of medicine, that represented by diseases of the nervous system has perhaps been least influenced by the science of bacteriology. In a minor way it has felt the effect of microbic theories, but until now, so far as my knowledge extends, no attempt has been made to explain more rationally upon this basis some of the vexed questions of the etiology of many nervous affections.

I shall undertake to bring forward a newer origin of many diseases of the nervous system. In these days of scientific medicine our profession rightfully demands proofs. I am aware that I have little incontestable proof in support of this theory to offer at the present time. Nevertheless, I think considerable evidence for the toxic origin of many affections of which the etiology has long been a source of doubt will be shown.

In speaking of the toxic origin of nervous diseases it was intimated that the idea was new. This is not entirely true. It is well known to you that of late years no inconsiderable rôle has been attributed to toxicity as an etiologic factor in a number of maladies. But in medical literature I have found little recorded relating to affections of the nervous system attributed to the effect of bacteriologic or analogous influences. For a long time it has become impressed upon me in my special study of nervous diseases, that the degenerations, respectively inflammations of both the central and peripheral nervous organs are, in a great measure, due to the effect which certain discovered and undiscovered toxins exert upon them. In some instances this result is attained only after an extended period of time, in others the effect upon the nervous tissue is quite acute as, for example, in poliomyelitis anterior, the so-called "infantile paralysis." In some cases the toxin is the product of microorganisms, as in diphtheritic and typhoid affections, in others the poison is of an inorganic nature, as is the paralysis due to lead, arsenic, mercury and alcohol.

There are several reasons which prompt me to seek the origin of many abnormal conditions of the nervous system in a chronic or acute exposure to the influence of toxicity. It will be impossible to enter deeply into the subject, for the realm of nervous diseases is vast, and the number of agents which may be powerful to exert their action possibly still greater. I must necessarily simply allude to many things to which further study and experiments may attach considerable importance.

Now it has been the just aim of pathologists and neurologists for many years to attribute the lesions of well-known diseases of the nervous system to defects of a congenital nature. These defects vary in degree, and in some instances require the assistance of an exterior agent to unfold to such an extent as to impress us with their importance as factors producing disease. With this tendency and aim I am most heartily in accord, as is shown in a recent paper by myself on "Syringomyelia."[1] It may be well, however, to caution against a too great willingness to search for congenital deficiencies or "retarded development," to the neglect of other causes, as in almost every case where such an etiology is apparent, prognosis is grave, except, perhaps, where surgical methods can be adopted.

We are all well acquainted with the patient's story of exposure to cold, to wet, to heat, etc., and doubtless such exposure, if it be long continued, can produce serious effects upon the entire nervous system, in fact upon the entire body. The popular notion concerning exposure is, perhaps, not so ridiculous as many of our fellow-physicians would have us believe. However, these histories of exposure of various kinds are to the inquiring mind unsatisfactory, to say the least. Guided by the light which the researches of the latest years have shed upon every field of scientific medicine, we should attempt to arrive nearer to the true causes in the production of all diseases. Therefore I would bring forward the following facts:

1. We find as sequelæ of affections of known microbic origin, inflammations and, secondarily, degenerations in both the central and peripheral nervous elements.

2. After and during the course of such illnesses as may be justly supposed to be due to bacterial invasion we find characteristic symptoms from the side of the nervous system denoting organic disease of the tissue of this system.

3. By analogy we may infer that both of the former classes are due to the effect of the microbes themselves or to the production of poisons by them.

4. This analogy is given by the two following subdivisions: (*a*), the inflammations and degenerations found in the nervous tissues as the result of toxins of non-microbic character, and (*b*), those notably due to the presence in the nerve elements of microorganisms or their products.

Under these classes we find affections of acute, sub-acute and chronic character. Again, among these we find affections of peripheral and central nature, both organic and functional. Into these conditions, which appeal to almost all of us as results of poisoning of shorter or longer duration, I shall enter but little, even though their importance for the worth of the toxic theory is of great value. I refer particularly to the nervous sequelæ or complications which follow the acute exanthemata and other febrile diseases. Some of these are undoubtedly, and others manifestly, due to the presence of microbes in the system. Of the former I mention diphtheria, typhoid and influenza as paradigms; of the latter, scarlet fever and measles. Paralysis, usually of peripheral origin, is comparatively frequent after the first named, seldom after the latter. It is still an open question as to the specific agent producing these paralyses, whether it be the bacteria themselves or their toxins. It seems to me that the cause must be sought in the action of the latter alone. As has been intimated, these paralyses are due to inflammations and often consequent degeneration of the peripheral nerves. We know that peripheral neuritis is frequently of toxic nature, as is seen in cases of lead and alcohol poisoning.

Speaking more particularly of affections of the nervous system we have among the acute forms due to toxic influences of *bacterial* nature, those presenting the clinical and pathologic conditions due to destruction in the central nervous organs. First, the poliomyelitis anterior or "infantile paralysis" with degeneration and atrophy of the ganglion cells in the anterior cornua of the spinal cord, also meningitis cerebro spinalis epidemica and inflammations of the meninges, due to tubercular and other bacillary forms. Those rarer diseases, such as encephalitis and myelitis acuta appear from their clinical and pathological character to be toxic. Of the acute peripheral affections produced by the microbic toxins, I cite "beri-beri" and, in repetition, the diphtheritic pareses and paralyses and the ascending paralysis of Laudry.

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[1] Indiana Medical Journal, December, 1893.

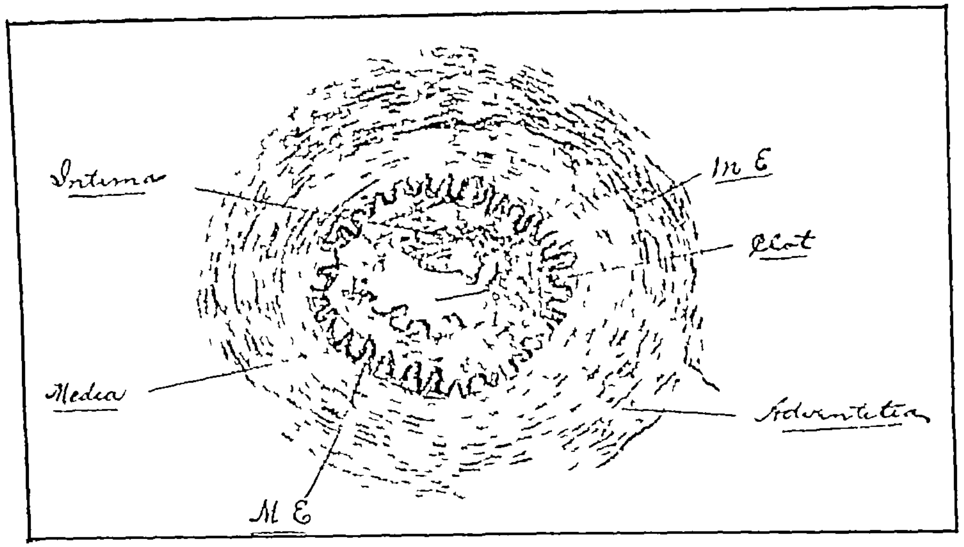
It will be vastly more difficult to establish a toxic origin for those conditions, both organic and functional of the nervous system which are commonly denominated as nervous diseases. The suggestion that the functional disorders which show themselves as epilepsy, hysteria and the mental perversions both of depression and exaltation as the direct manifestations of toxic action lies very near. Assuredly many parallels could be drawn to express the similarity in the effects of known poisons upon the cerebral and spinal functions, and the above mentioned affections. In this connection it will be necessary simply to allude to the action of strychnia, and of curare among drugs, and to recall the symptoms often supervening from the results of intestinal, biliary and renal intoxications. Disturbance in the physiologic action of many glands produces chronic nervous ailments. So for instance, is this true of the thyroid and presumably of the thymus where this persists after puberty. It is an achievement of modern science which has given to us a knowledge of myxedema, and of exophthalmic goitre, both of which seem due to the chronic action of some still obscure toxin.

That syphilis is due to bacterial infection there can be no reasonable doubt. That of extra-congenital conditions of nerve lesions we should seek the etiology preeminently in the action of the syphilitic virus may be considered almost equally true. The three agents which play a main rôle in the production, better said, induction of nervous diseases, both organic and functional, may be said to be syphilis, tuberculosis in some form, and alcohol. All three act, it seems to me, in a similar manner, by gradual intoxication. The channel through which this action is spread lies in the blood and lymph currents. The action of the poison is primarily exercised upon the vascular and lymphatic systems, the result of which is shown in subsequently produced lesions in the nervous elements. The above statements are liable to misconstruction. To become more explicit, I believe, not that many diseased states of the nervous system are either syphilitic or tubercular or alcoholic—though for each of these there exists a distinct specific disease of both central and peripheral nature—but that the ptomaines, respectively toxin, produced by constitutional syphilis, tuberculosis or alcoholism are factors which contribute more largely even, than is generally supposed to the development of various diseases of the nervous system. That an anti-syphilitic, an anti-tubercular or an anti-alcohol cure may have little or no effect upon the diseased nervous state against which the one or the other may be directed, seems to me to carry little weight against the etiologic importance of these specific troubles in the production of nervous affections, as some authorities contend. We have in these cases to do with the results of specific infections, not with the infections themselves.

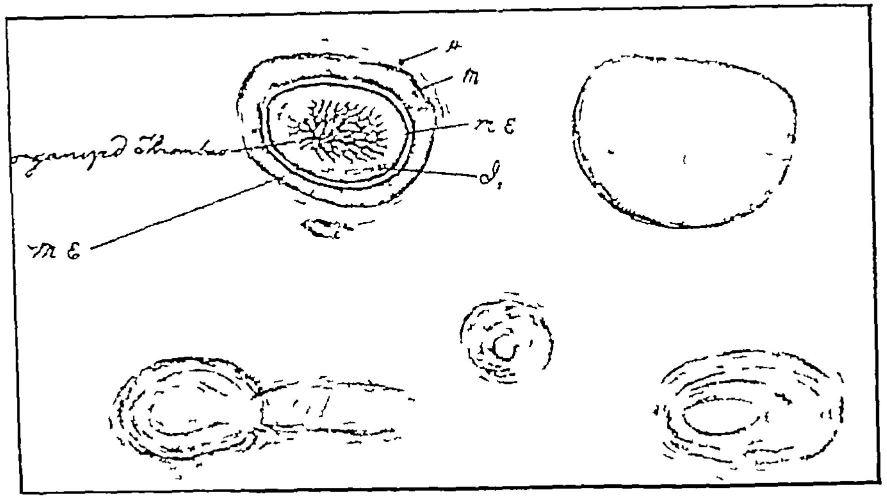
The most common and illustrious examples of the result of chronic bacterial toxicity are tabes dorsalis and lepra anesthetica. These two affections have many similarities, though in fact they are entirely different processes. Whereas in lepra we find the specific bacilli in the nervous tissues, no such conclusive proof of the purely microbic origin of tabes has ever been discovered, and probably never will be, inasmuch as the systemic degeneration which forms the pathologic basis of locomotor ataxia may be best looked upon as the result of some primary process, *i. e.*, chronic toxicity. It seems to me to be an error to regard the only nerve lesions present in tabes (degeneration of the posterior tracts of the spinal cord) to lie in the central nervous organs. This lesion is doubtless the most important, but there are others, notably multiple degenerative peripheral neuritis, equally constant and, moreover, responsible for many of the characteristic symptoms of the disease.

Tabes should be regarded as a constitutional process, one which places distinct and separate lesions within the nervous system, and perhaps in other tissues. It is in the vast majority of cases a post-syphilitic affection, the direct consequence not of syphilis but of the ptomaines or toxins produced by the agents of the specific disorder. That few cases of well-developed locomotor ataxia are in any way benefited by mercury and iodid of potash need not appear strange. The action of these drugs directs itself against the microorganisms and their ptomaines, not against their secondary effects. That the syphilitic agent acts most powerfully upon the vascular system of the nervous organs can be readily demonstrated. The characteristic changes in the blood vessels of the central nervous organs are present in almost every microscopic section. To these changes of the vascular system the degenerations throughout the whole body of the tabetic individual may be, to a great extent, directly traced. Just how the process is to be explained, whether through inanition due to defective oxidation on account of the condition of the vessel walls, or whether the poison exerts direct influence upon the tissues supplied by these vessels, or whether the changes spread from the vessel walls, remains a matter of doubt. It seems certain, however, that the degenerations within the nervous system are changes secondary to those of the vascular system. They are interstitial, not parenchymatous. Moreover, I regard both as consequences of toxicity.

Whether or not it will prove possible to establish analogous relations for the many other essentially nervous diseases, amyotrophic lateral and multiple sclerosis, for the non-systemic degenerations, etc., I am not now prepared to say. However, we have affections of essentially nervous character which appeal to us even more, namely, tetanus and chorea. That tetanus is the result of the action of tetanim or tetanotoxin is beyond question. Experiment has proved that this product of the tetanus-bacilli causes the disease. Of the alkaloids, strychnia acts much in the same way. Whether the affection called tetany is also of a toxic nature it is yet impossible to state. Its endemic nature might lead us to infer that it is. That chorea associates itself very frequently with an

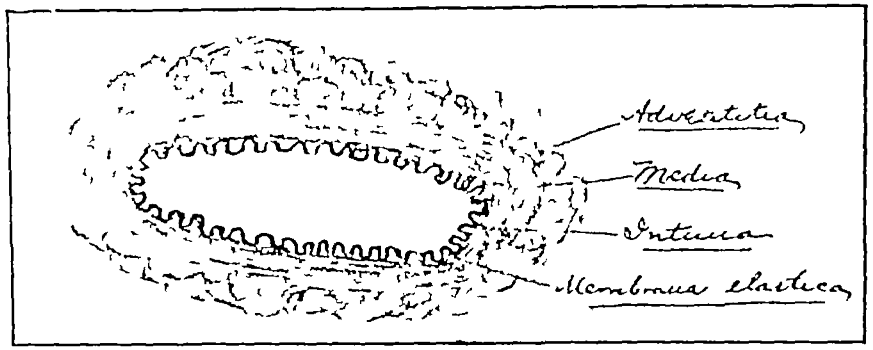


Endarteritis luetica, lues cerebro-spinalis Very small brain artery M E, Membrana Elastica

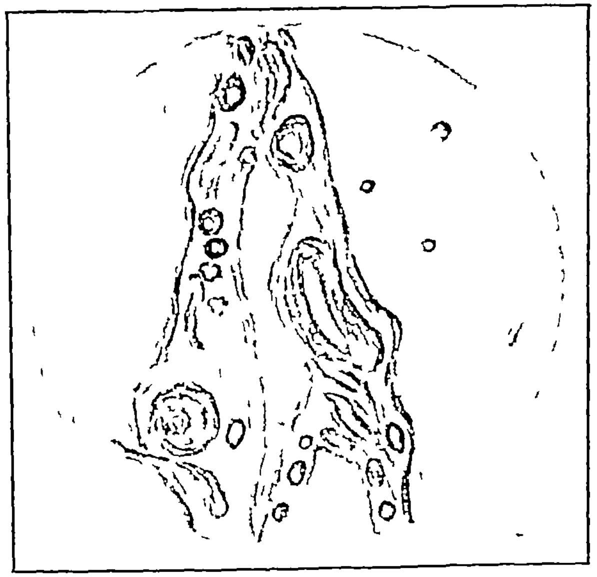


Endarteritis specifica, lues cerebro spinalis A, Adventitia. M, Media I, Intima. M E, Membrana Elastica

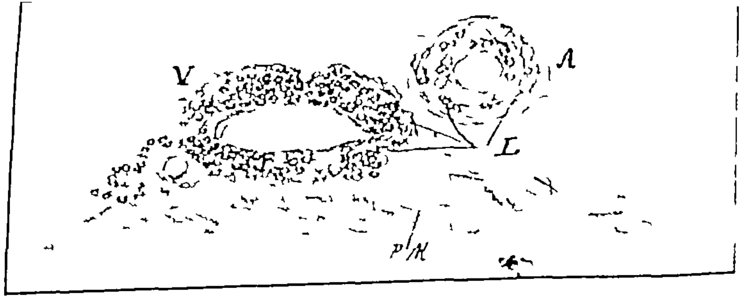
Stain American carmine magnified



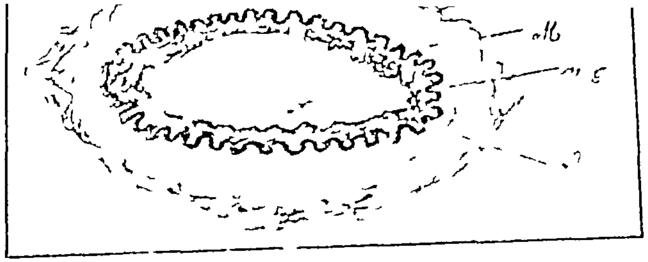
Combined Sclerosis Direct cerebellar tract, antero lateral ascending tract, and Goll s columns Vascular changes Spinal artery Adventitia, much broken up and thickened Media, much thickened Intima, almost intact



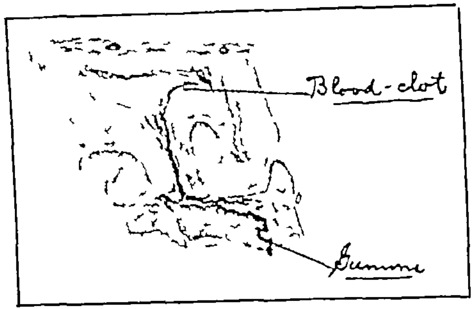
Endarteritis specifica, lues cerebro spinalis



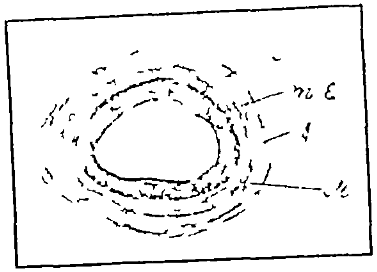
Combined Sclerosis (2b) Pyramidal tracts and Goll's columns Vascular changes Walls of both vein and artery much thickened and destroyed Leucocytes (L) are to be seen distributed throughout the vessel walls, notably in that of the vein (V) P M thickened pia mater



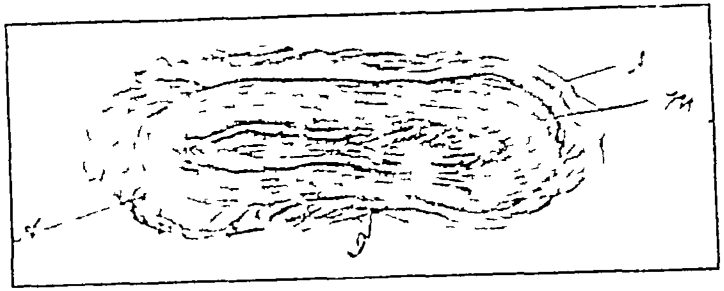
Syringomyelia Vascular changes Spinal artery Adventitia (A) much thickened and fragmented Media (M) very much thickened Intima (I) fragmented and loosened much thickened M E Elastic Membrane



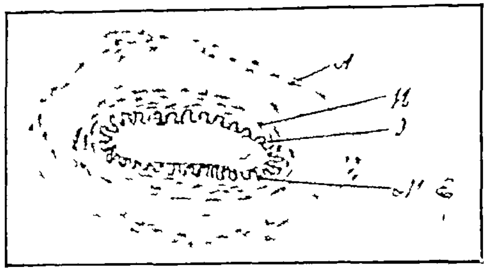
Hemorrhage and subcortical gummi, lues cerebralis



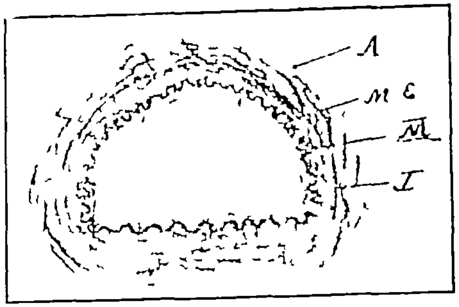
Tabes Dorsalis Vascular changes Minute spinal artery Adventitia (A) thickened and in fragmentary destruction Media (M) thickened Intima (I) much thickened M E, Membrana Elastica Thrombus in artery



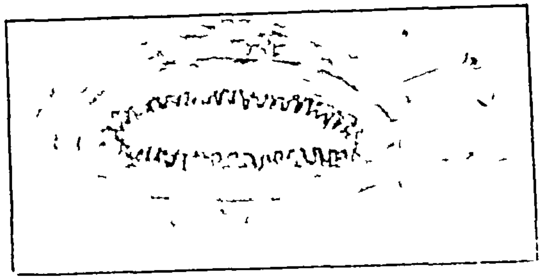
Poliomyelitis Anterior Vascular changes Spinal artery Adventitia (A) very much fragmented and loosened from media Media (M) much thickened Intima (I) torn from the media



Gliosis Spinalis Vascular changes Small spinal artery Stained to show proliferation of nuclei Adventitia (A) much thickened many nuclei near the periphery Media (M) thickened, countless nuclei Intima (I) somewhat loosened, no proliferation M E, Membrana Elastica



Amyotrophic Lateral sclerosis Vascular changes Small artery Adventitia (A) fragmented Media (M) thickened Intima (I) loosened and thickened M E, Elastic Membrane



Syringomyelia Vascular changes Small spinal artery Adventitia (A) thickened and broken up Media (M) much thickened Intima (I) nearly intact M E Elastic Membrane

undoubted infectious disease, namely acute inflammatory arthritis, seems to me to prove at least the possibility of its toxic origin in the majority of cases

Many other examples could be brought forward Our daily experiences teach us many We meet with the nervous sequelæ of the infectious fevers We look for them from the action of poisons, either taken from without or generated within the body, arising from disordered functions in various organs, absorbed from the intestines or taken into the circulation from liver and kidneys We seek the candidates for nervous and mental diseases preeminently from among those long exposed to chemic intoxication both of organic and inorganic character, in other words, from those subjected to toxic influences and the abuse of drugs and alcohol Dementia paralytica may aptly be mentioned here

Acting upon this line of thought and experience, I have carefully examined many specimens of the nervous system taken from different subjects suffering from the same affections and several of these specimens I wish to submit to your inspection In this investigation especial attention was devoted to the condition of the blood vessels, notably in cases of tabes, syphilis, dementia paralytica amyotrophic lateral sclerosis, multiple sclerosis, primary lateral sclerosis, poliomyelitis and myelitis acuta, syringomyelia, gliosis spinalis and various combined systemic scleroses, among the organic diseases Of the so-called "functional" affections, epilepsy and chorea were studied Fatal cases of diphtheria and scarlatina in which no paralysis had supervened, and of the various cachexias, notably of tubercular subjects, of profound anemia due to intestinal intoxication, and of alcoholists were also examined, in order to determine how far the vascular changes might be due to toxic action or simple inanition, in cases which had shown no essentially nervous symptoms In all of these affections the condition of the vessel walls differed markedly from the normal It can not be said that there was any constant degree of pathologic alteration in any one case or in a given disease The character of these vascular changes you can easily detect in those specimens beneath the microscope, and from the drawings near them Unfortunately the detailed structure is not given in the latter Taken altogether it will be seen that the walls of the vessels present very decided differences from the normal The pathologic process appears more marked in cases of syphilis and in post syphilitic tabes and dementia paralytica than in the other diseases It seems more intense and widespread However, it will be noticed that in those affections which have heretofore been less studied as regards their vascular condition than the above, advanced disease of the vessel walls is shown in many cases

All the layers of the arteries are affected by the process, sometimes the one more than the others In the main the process is one of cell-proliferation effecting increase in the volume of the vessel wall at the expense of the vessel lumen Even where considerable fragmentation of the vessel walls has occurred, and where the intima or adventitia are loosened from the media this increase persists Very often the lumen of the vessels is entirely obliterated just as in endarteritis syphilitica In several specimens enormous quantities of leucocytes were present in the vascular tissues In several instances slight hyalin degeneration was present, but in no case observed by me was this peculiar change constant or widely diffused Thrombosis seems more common in the more chronic, fragmentation more usual in the acute diseases, such as poliomyelitis and myelitis In the cases of diphtheria and scarlatina, which were all rapidly fatal, evidences of acute inflammation and extravasation predominated over other changes Fragmentation, i e, varying degrees of tearing and loosening of the intima, media, and adventitia, also obtained

In the cases of epilepsy and chorea which I examined, the condition was closely allied to the above, minus the signs of acute inflammation The innumerable minute hemorrhages present in these cases certainly indicated that some agent, probably toxic, had exercised considerable influence upon the vessel walls It seems to me that this same toxic agent acts upon the nerve cells, perhaps only functionally or chemically like certain drugs, and causes the clinical symptoms of these affections

It is interesting to note that the state of the vascular system in the marantic conditions investigated, namely in the cachexias of tubercular, profoundly anemic and alcoholic subjects showed no great divergence from that described above The quality of the pathologic changes was very similar, only the intensity of the process was less marked It seems, therefore, that in all of the affections in which some degree of toxicity was manifest, that the blood vessels are more or less intensely altered These changes I consider the direct result of some toxic action, possibly chemical in its nature In how far the period of exposure acts in producing varying grades of lesions it would be difficult to say That the duration of time in which the toxic agent has exerted its influence may be a factor of great consequential importance can not easily be denied, when we reflect, that, in a notoriously long-lived intoxication i e, syphilis, the vascular lesions are most intense and widespread How it is that different parts of the nervous system possess decided affinity for certain toxic agents it would be difficult to determine That such an affinity exists, I belive that no one can gainsay How else can we explain rationally the predilection with which lead attacks the radical group, or the diphtheritic toxins certain nerve territories? Functional overwork undoubtedly plays no inconsiderable rôle in this selective and elective play, but some peculiar chemic affinity seems clearly at work in many afflictions following given types We are still far from a clear conception of nerve chemistry, the proper knowledge of which would render these problems more easily solved, and eventually teach us the way to reconcile our bedside and consultation experiences with pathologic processes and theories of diseases

75 E Michigan Street

DISCUSSION

Dr Preston, of Baltimore—I think the subject presented to us is one of extreme importance, and one which certainly is attracting the attention of neurologists very greatly It is almost too vast to discuss, but there is a part of it that has attracted my attention for several years I was particularly pleased to see the importance which Dr Sterne attaches to vascular changes There is one affection, namely, posterior sclerosis (tabes) which I think shows that in a very interesting and remarkable manner If we consider that we very rarely ever have a cervical tabes, that is I think of itself a fact worth noticing A few cases have been reported of purely cervical tabes but this is unusual If we recall the blood supply of the spinal cord, we see that the lower part of the cord is supplied mainly by the branch of the intercostal artery, the upper portion of the cord getting very little from the artery Here is a small branch coming off at right angles from the trunk, and the sclerotic material is heaped up just at the mouth of this intercostal artery That being the fact, we see at once that the nutrition of the lower portion of the cord is certainly much diminished by this change in the intercostal artery, so that instead of getting its proper blood supply, the lower part of the cord does not receive proper nutrition I think the branch of the intercostal supplies mainly the lower part of the cord, and if that can be demonstrated we could say, I think, that a large part of the cause of tabes was due to the fact that the proper nutrition was cut off on account of the arterial sclerosis of the intercostal arteries, just the arteries we would expect to find affected first We have a great many toxic causes, alcoholism standing prominently forward, gout, rheumatism, lead poison, etc, and syphilis, all contributing to the production of arterial sclerosis, and these causes certainly act in the production of locomotor ataxia The syphilitic process, while producing an arterial sclerosis unlike the other sclerosis of gout and lead poisoning, does produce a distinct change Some years ago I began using nitro-glycerin in the treatment of early tabes, and I am satisfied that I have obtained some good results I have been able to relieve the pain in early cases of tabes, I am sure, by the continuous use of nitro glycerin, acting upon the idea that I might produce in that way a slight increase of nutrition to the spinal cord I think that the fact that certain local applications have proved of advantage is perhaps due to that

Dr Patrick, of Chicago—I should like to vote a very decided aye, in regard to the first part of Dr Sterne's paper, and a very decided no, in reference to another part of the paper As to the influence of the various toxic agents upon the nerves I do not think there can be much difference of opinion The influence of the various agents has been shown so conclusively that we are scarcely on debatable ground Even toxico-pathic heredity has been very conclusively proved This has long been known and generally established in regard to syphilis, morphin, etc Parents subjected to lead, mercury, bisulphid of carbon, also beget children with neuropathic tendency When the Doctor goes a step further, and would attribute almost all diseases of the nervous system to an affection which begins in the blood vessel, I think he will have extreme difficulty in maintaining his position To group all these affections which he has enumerated, including locomotor ataxia, acute anterior poliomyelitis, etc, under one head, is decidedly going further than our present knowledge of pathology would justify Our present knowledge would vote a decided no, to these propositions These affections begin in the nervous structures themselves, and the change is in the nervous conditions primarily, and not in the blood vessels When these diseases have gone on into an advanced state, we find a change in the blood vessel, but that is secondary Tabes has been conclusively shown not to be a disease of the blood vessels These cases begin almost always in the nerve cell, or in the nerve fiber, consequent upon atrophy, destruction, or disintegration of the nervous element The connective tissue may take on changes, but these are secondary, it is not primarily a disease of the blood vessels at all Even the changes which have been recorded chiefly by Nunez which were changes in the cord occurring in pernicious anemia, were primarily of the nervous tissue

Dr Sterne—Dr Patrick misunderstood me when he thought I classed all these cases together I did not say that I class all these cases together, except in physiologic importance It is very difficult, if not impossible, to say where you have these changes, whether they are secondary or primary, in cases of such long standing as tabes dorsalis I do not believe that the ganglionic cells or the nervous fibers of the axis cylinder are primarily affected

PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI)

BY BYRON ROBINSON, M D
PROFESSOR OF GYNECOLOGY POST GRADUATE SCHOOL CHICAGO

(*Continued from page 67*)

THE GREAT OMENTUM

Synonyms mesogastrium posticum, posterior mesogaster epiploon, gastro-colic omentum, omentum majus, ligamentum gastro-colicum, apron or caul

The great omentum is a double fold of peritoneum which stretches from the mid-dorsal line to the greater curvature of the stomach and concave surface of the duodenum The mesogaster posterior and the meso-duodenum are one and the same mesentery It is twisted into the shape of the letter S, with one loop of the S larger than the other on its stomach aspect The ligamentum hepato duodenale has dragged the pylorus toward the right from the atrophy of the liver The mesogaster (posterior) or the great omentum is very long and wide, and easy to inspect But the mesoduodenum is so changed by the rotation of the great intestinal loop that it is not readily inspected However, if one dissects up the transverse colon it will be seen that the whole mesoduodenum is still in existence except the serous covering which faces both sides of the mesoduodenum in early fetal life In other words, the membrana mesenterii propria is still existing, minus its serous shining epithelium One can dissect out the mesoduodenum and note the arches and arcades of blood vessels just as they are in the mesentery of the small intestines The head of the pancreas lies im-

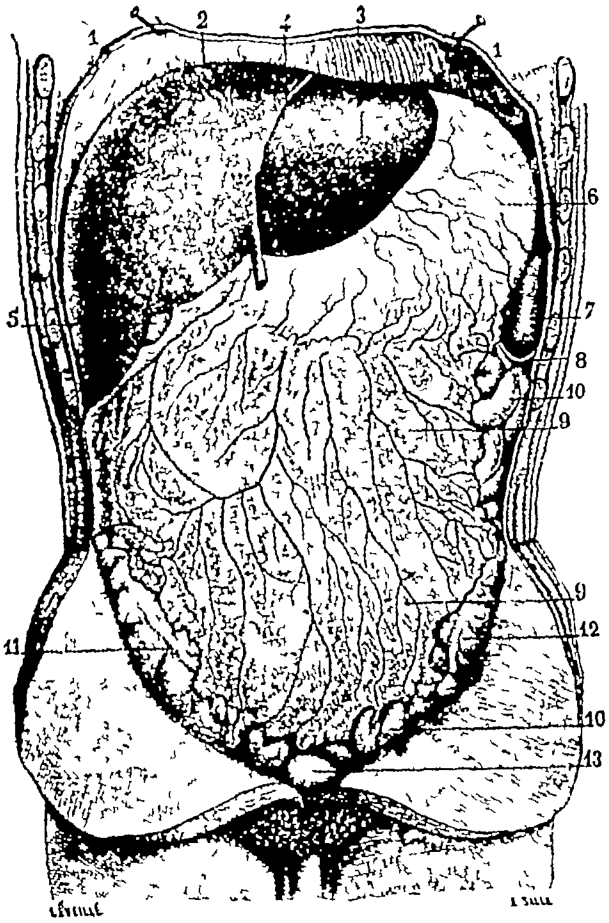


Fig 17 (after Sappey 1880) represents a front view of the great omentum It is unusually well spread out and quite symmetrically located It shows well the relations of the great omentum to the surrounding organs, especially the three great peritonitic regions, viz gall bladder, appendicular and pelvic It does not cover the cecum (No 11), nor does it reach the pelvis and the top of the gall bladder (No 5) 13, summit of bladder, 12 8, iliac, 10, points to loops of small intestines bedded in the membrana mesenterii propria as I have often proved by dissection The great omentum in early fetal life is a simple double bladed membrane which suspends the stomach and duodenum from the mid-dorsal wall As time and growth progresses the mesogaster elongates It stretches and elongates toward the left before the moving stomach The mesogaster is at first a plain surface later a shallow wide mouthed bag and finally in the shape of a jug with its mouth at Winslow s foramen The great stomach curvature which was originally at its posterior border has moved to the left, and by so doing the mesogaster has become extraordinarily long The movements of the stomach (chiefly due to the liver) viz , axial rotation and twisting, with descension are supposed to be the main factors in regard to the elongating of the great omentum or mesogaster (posterior) However, these forces are inadequate to explain the excessive length which the great omentum attains In man or the higher mammals the role played by the transverse colon aids in explaining some factors as regards the length of the mesogaster Yet some obscurity still exists, for in the dog where the transverse colon is not connected with the great omentum there exists even a longer great omentum than in man If one could place the fist against the right face of the mesogaster in a fetus and continue pushing toward the left until the mesogaster was stretched into an irregular sac, the bag could be observed at the left of the stomach while its neck would be found at the right and behind (Winslow's foramen) The walls of the bag consist of a double-bladed membrane, the stomach mesentery which continues to elongate until its walls pass in front of the small intestines and normally to the pelvis The layers of the great omentum start from the great stomach curvature where they arise from the convergence of the anterior and posterior serous blades of the stomach and pass downward in contact with the anterior parietal peritoneal layer After descending normally into the pelvis, these two layers turn or reflect on themselves and pass upward in front and in contact with the small intestines until they reach the transverse colon, whence by divergence they embrace the colon and again come together to form the transverse mesocolon The transverse mesocolon passes to the back wall of the abdomen where the upper blade ascends along the dorsal abdominal wall, while the under blade descends on the dorsal abdominal wall The chief variation in the mammalian peritoneum exists in the great omentum especially in reference to its relation with the transverse colon

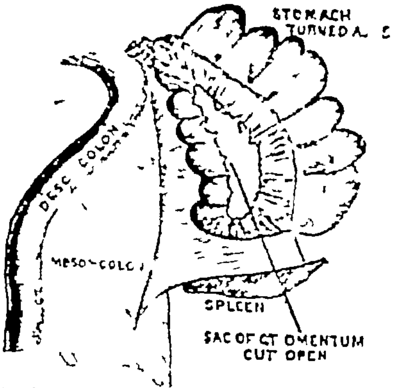


Fig 18 (after Treves) represents a primitive condition of the great omentum found in the kangaroo The omental sac is cut open to show that it has not formed a long pendulous omental bag as in many mammals In this animal the posterior mesogaster appears as if it were simply pushed slightly toward the left, forming a shallow wide open depression with no Winslow s foramen The neck or rather circumference of the depression in the mesogaster never contracted to form a foramen

By reference to Fig 18, a beautiful illustration of the great omentum of a kangaroo may be observed In this cut the slightly pendulous bag of omentum is cut open to better show its construction The part of the mesogaster which bulges is about midway between the pylorus and lower end of the esophagus This is the case as far as I can determine in the

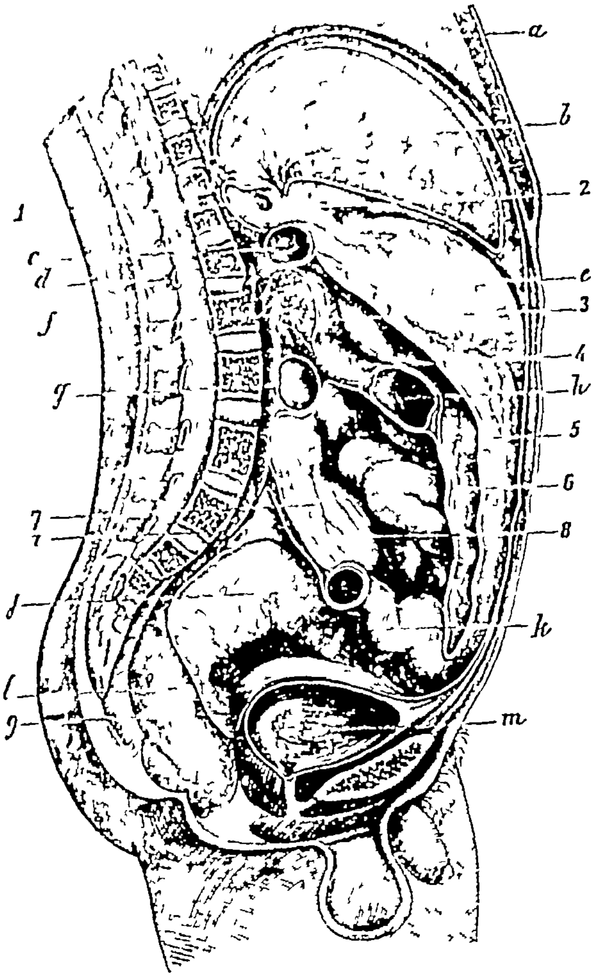


Fig 19 (after Forabeuf) represents a beautiful profile view of the great omental bag It is worthy of careful inspection It is drawn in vertical section in the middle line a, diaphragm b, liver c duodenum d renal vessels c anterior face of the stomach f pancreas covered by the ascending or superior blade of the transverse mesocolon, g, inferior transverse colon h colon transversum i iliac vessels j, S iliac k, small intestine l rectum m, bladder 1, Winslow s foramen (orificium epiploon foramen bursa omentalis pinum or hiatus Winslowii), 2, gastro-hepatic omentum lesser omentum or ligamentum gastro-hepaticum 3 the lower blade of the lesser omental cavity or the upper blade of the mesocolon transversum ascending over pancreas 4 mesocolon transversum 5 anterior or descending blades of the great omen tum 6 posterior or ascending blades of the great omentum (the part below the colon Huschke called the omentum colicum and the part between the stomach and colon the gastro colic omentum) 7 and 8 point to the upper blade of the mesenterium which consists of three layers, (a) an upper and (b) a lower, shining serous epithelial layer, and (c) a middle layer (membrana propria mesenterii) this middle layer is, the real neuro vascular visceral pedicle composed of blood vessels, lym phatics nerves elastic and fibro connective tissue 9 Douglass' pouch (excavatio-recto vesicles) It may be observed that the shining serous epithelial layers may be displaced or entirely dragged off of a viscus, but the middle layer the membrana mesenterii propria is never displac ed or dragged off of its original viscus e.g , the pancreas in the human fetus lies in the gastro colic omentum very distinctly, as it plainly does in the dog In the adult human the shining serous epithelial peritoneal layer does not surround the pancreas but simply lies against its anterior face The epithelial layer has been displaced or readjusted But the pancreas is enveloped by the middle mesenteric layer i e by the membrana mesenterii propria which holds in order as it always did the vessels, nerves and fibrous tissue Again the duodenum is similar ly deprived of its peritoneal epithelium on its posterior surface by dis placement or readjustment but the duodenum is definitely enveloped as it originally was by its real neuro-vascular visceral pedicle the mem brana mesenterii propria or middle mesenteric layer fetus of man and animals If the largest bulge in the mesogaster does exist halfway between the cardiac end of the stomach and pylorus, it accords with what seems to me the method of formation of the omentum and that is through stomach movements It appears to me that the existence of the serous membrane or peritoneum is due to free moving viscera, plus fixed and independent surrounding walls, i e, serous cavities depend on the coalescence of interstitial (lymph) spaces from fluid pressure and independent action of surrounding or adjacent walls In the case of the great omentum its appearance is chiefly due to the liver The liver enlarges and pushes the stomach toward the left and downward The stomach coincidently dilates and contracts The liver enlarges so enormously in fetal life that it elongates the esophagus below the diaphragm and forces the stomach to the left and downward to a surprising degree The force that twists the stomach so much (as in the pig and dog) appears to reside in the irregular and unequal growth of the liver lobes At one time in fetal life the left lobe of the liver enlarges so rapidly as to force the stomach extensively to the left and downward Spigel's lobe enlarges enormously and produces the sharp bend in the lesser curvature of the stomach, beside forcing the stomach downward and to the left Again, at another time of life, the right lobe of the liver atrophies so rapidly that the pylorus is very much dragged over to the right side, thus increasing the apparent transverse position of the stomach Yet this transverse position of the stomach is more apparent than real, for the line from the lower end of the esophagus is almost straight and parallel to the vertebral column The delusiveness of the stomach position consists in the excessive bulging of the great curvature But why there is such an excessive length of omentum is not clear An explanation which I offer is that the force (liver) which produces the elongation of the mesogaster works continually on its base from beginning to end of formation (Fig 19) The only method of explanation of the origin and method of formation of the great omentum must be sought through evolutionary development of the mammalian close connection with the condition and size of the liver For example, Treves notes that in the rudimentary disposition of the great omentum in the two-toed anteater a mere shallow bag is observed bending toward the left, but he does not say a word as to the condition of the liver, or why the anteater has such a simple mesogaster Unfortunately I am not situated as Treves is, whereby his relations to the London Zoological Gardens enable him to examine the viscera of many animal species In lower mammalia the mesogaster is a mere bag bulging toward the left with no relations with the mesocolon The bag is a mere depression in the plane of the mesogaster and it can scarcely be considered to have a mouth or foramen With the progress of

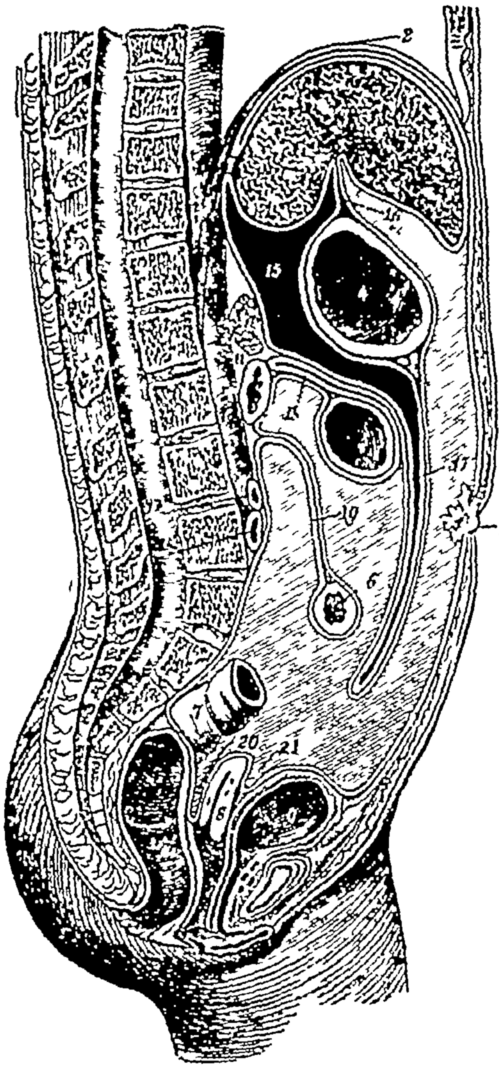


Fig 20 (after Luschka, 1863) represents a sagital section of the peritoneum It is an excellent cut It may be noted that the peritoneum does not descend sufficiently on the anterior surface of the uterus 1, navel with adipose collection 2, diaphragm 3 liver, 4, stomach, 5 colon transversum 6, intestine, 7, rectum, 8, uterus, 9 bladder, 10, pancreas, 11, pars horizontalis inferior duodeni, 12 aorta abdominalis, 13, art iliaca communis dextra 14, vena iliaca communis sinistra, 15, bursa omentalis minoris, 16, omentum minus, 17, omentum majus, 18, mesocolon transversum, 19, mesenterium, 20, Douglass' pouch (excavatio recto uterina), 21, utero vesicle pouch (excavatio vesico uterina) Notice that Luschka shares the views of coalescence and not displacement at No 18, which shows four layers instead of two layers for the mesocolon transversum

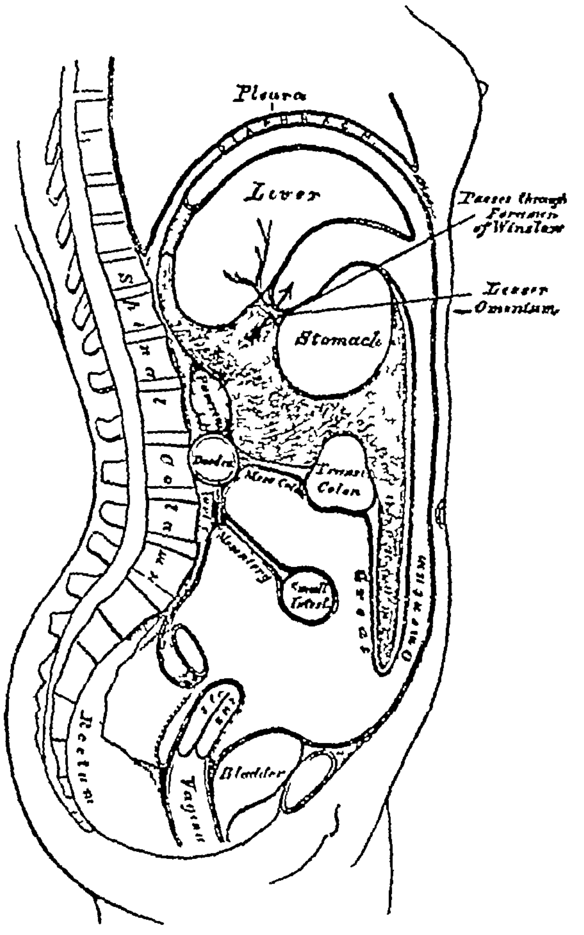


Fig 21 (after Gray 1887) represents a profile outline of the peritoneum as it lines the abdominal cavity It is quite diagrammatic The coccyx is drawn entirely too low, as it should only reach the level of the junction of the lower and middle third of the pubic bone Notice the colon lies between the layers of the posterior ascending omentum i e between the mesocolon Neither the displacement or coalescence view is here hinted at.

the mesogaster, bulging toward the left assumes more and more the shape of a bag lying around the great left bulge of the stomach The wide circumference of the depression gradually contracts into a neck and, finally, jug shaped, we have a bag (lesser omental cavity) and a mouth (Winslow's foramen) Now, the student would naturally suppose that the mouth of this bag formed by the elongated mesogaster would be at its mesenteric root, i e, on the vertebral column, but the atrophying right liver lobe has dragged the pylorus and lower end of the stomach to the right so that the neck of the sac or foramen of Winslow is also drawn to the right But the relation of the foramen with the portal vein, hepatic duct and artery are not altered, for the whole apparatus, constricting the mouth, with the foramen is dragged to the right Hence the mouth of the sac (Winslow's foramen) is not situated at the root of the mesogaster on the vertebral column but to the right where it is forced by the atrophying right liver lobe An excellent diagrammatic illustration of the great omentum I have copied from the anatomy of Dr Debierre which is from the valuable labors of Dr Forabeuf (Fig 19) The involvement of the great omentum is inevitable where the rotation of the navel loop is so extensive as in man and higher mammals, because the right end of the transverse colon and the duodenum is so closely related

All serous cavities are secondary No serous cavity arises as a primary structure Embryologic development teaches this fact in all animal life Serous cavities are really points, points of motion They regulate pressure, facilitate motion, modify circulation and allow visceral rhythm to have anatomic and physiologic functions With the above views the anatomy and physiology and method of origin of the great omentum must be associated

It is well to look at the root of the mesogaster for proof of origin and distribution of the great omentum By examining the root of the mesentery it will be observed that the celiac vessel springs from the aorta at the middle of its origin This short arterial trunk soon divides into three smaller arteries, viz, gastric, splenic and hepatic A knowledge of the distribution of these three arteries is essential in discussing the mesogaster The gastric artery starting from the celiac artery passes forward and upward to gain the cardiac end of the stomach In its course it projects a fold of the right blade of the mesogaster forward for one to two inches This fold is called ligamentum gastro pancreaticum and it partially divides the lesser omental cavity into two compartments The right compartment of the lesser omental cavity we may call the bursa omentum minoris, and the left bursa omentum majoris The aperture between the right and left divisions of the lesser sac is the foramen omenti majoris while Winslow's aperture is the foramen omenti minoris The fold of peritoneum thrown up by the gastric artery varies much in size and length Generally it is one and a half inches high and it reaches from the upper border of the pancreas to the junction of the esophagus and stomach where the gastric artery gains access to the stomach In some cadavers I observed that the gastric vein would accompany the gastric artery intimately for three fourths of its distance and then diverge from the artery and border of the fold Generally the gastric vein does not accompany the gastric artery very far in the border of the fold The ligamentum gastro-pancreaticum is due to the gastric artery and not to the gastric vein in the vast majority of cases The peritoneal duplicature produced by the gastric vessels projects from the upper and posterior surface of the omental sac, dividing the cavity into a smaller right cavity, containing a viscus, and a large left cavity containing no viscus In quite a number of bodies I found another peritoneal duplicature projecting into the omental cavity beside the one due to the gastric vessels However, they were small and inconstant, due to small blood vessels or to a past peritonitis A practical method, to observe the peritoneal fold due to the gastric artery, is to well inject the arteries of a very spare subject and then to allow the subject to stiffen with cold, which will give a fixation and solidity to the viscera, so that their outlines and the borders of the peritoneal fold can be easily noted

The hepatic artery which also springs from the celiac axis turns downward and runs under the right blade of the mesogaster until it reaches the ligamentum hepato-duodenal whence to gain access it turns and passes the liver The hepatic artery passes directly downward from the celiac axis and slightly deviates to the right for several inches before it gains access to the hepato duodenal ligament During this whole course, from the celiac axis to its turn around Winslow's foramen it generally does not raise the right blade of the mesogaster into a fold thicker than the width of the artery One can easily observe the ridge produced by the peritoneal duplicature under which lies the hepatic artery I never saw the ridge high enough to pass the point of the forceps between the artery and the anterior abdominal wall As soon as the artery reaches the duodenal ligament it sharply bends forward, surrounding the foramen of Winslow and then producing peritoneal duplicatures But after the artery has passed into the ligamentum hepato-duodenale it is beyond the pale of the mesogaster, so we drop its course at this junction At this point the hepatic artery is important as it really forms the mouth of the sac known as the lesser omental sac Though the distal end of the hepatic artery makes a sharp bend and hooks itself around a small aperture, hiatus Winslowi, yet the main trunk borders a larger foramen just to the left of the small one of Winslow, so that a careful examination on a well-prepared subject, fitted for the inspection, will reveal that an aperture exists to the left of Winslow's which is really a second Winslow's foramen The aperture (foramen omentalis bursa) is bounded by the gastric artery in front and by the hepatic artery behind It produces a constricted communication between the larger and smaller cavities of the lesser omental bag We really have two foramina connected with the lesser omental bag The first, foramen Winslowii primus, is the small end lying between the distal end of the hepatic artery and the inferior vena cava, and it leads into an anteroom (antrium bursa omentalis, or bursa omenti minoris) which contains Spigel's lobe This anteroom of the lesser omental cavity is about the size of the fist, and is especially closed in front by the pars flaccida or middle portion of the ligamentum gastro-hepaticum The second, foramen Winslowii secundiss, is a constricted orifice, bounded by the gastric artery and trunk of hepatic artery or rather the peritoneal duplicatures produced by the vessels The foramen leads from the anteroom or right cavity to the larger sac (bursa omenti minoris) of the lesser omental cavity This left cavity is more uncertain and irregular than the right, as toward the spleen above and the ligamentum phrenico colicum there are frequent constrictions due to past peritonitis Various spaces and sacs are constricted off at the left end of the lesser omental cavity

(*To be continued*)

SOCIETY PROCEEDINGS.

Chicago Pathological Society

The regular monthly meeting, March 11, 1895

Dr Homer M Thomas, Temporary Chairman

Dr Bishop exhibited for Dr John B Hamilton the specimens from a case of extra-uterine pregnancy, and prefaced his remarks as follows I regret that he is not here to give us the clinical history and the points connected with the operative procedure The notes from which I shall presently read were furnished by the interne in charge of St Joseph's Hospital where the operation was performed Dr Bishop then read the following clinical notes

EXTRA-UTERINE PREGNANCY—DR HAMILTON'S CASE

Clinical notes obtained from records of St Joseph's Hospital

Mrs G H, age 31 years, housewife Family history father died of consumption, mother suffering from the same disease Personal history always in fairly good health except for some injury in sacral region eight years ago, followed by an abscess in the pelvis, which was opened and drained through the vagina Entire recovery after four weeks Uniformly good health continued until about two years ago, when she was ill for a short time, having a vaginal discharge, her physician telling her she had miscarried, the fetus being only a few weeks old Her present illness began one year ago with pain in the right inguinal region Menstruation became scanty Amenorrhea for past fourteen weeks About two months before entrance to the hospital, the pain in the right inguinal region became very severe and has persisted ever since Four weeks later profuse uterine hemorrhage set in, continuing up to five days before operation

The patient consulted Dr Hamilton Jan 10, 1895, who advised laparotomy Operation January 15 The right ovary and tube with the hematoma and contained fetus were removed The remainder of the clinical history deals with the progress of the patient, which was uniformly favorable, she leaving the hospital February 3

It will be seen that the ovary itself is fibrous, and there are a few cysts upon its surface The clot altogether is not larger than a hen's egg and the sac in which the fetus lay is demonstrable at the outer end of the tube which has been incised and held open As will be seen by examination of the specimen this is an example of tubal gestation The outer end of the Fallopian tube is expanded to the size named, by the clot, and the fimbriæ can be seen coursing up over the extremity It would seem that the implantation of the ovum took place very near the fimbriated end of the tube The tube and clot were incised before reaching me, save for the incision the tube walls appear to be intact The fetus (shown in a separate bottle) is about 2 centimeters long, probably four or five weeks old

DISCUSSION

Dr George Henry Cleveland—I am sorry Dr Hamilton is not present this evening, as I would like to ask him one or two questions, one of which is as to whether the diagnosis of extra-uterine pregnancy was made previous to operation or not

Dr Bishop—The notes make no statement on that point, and I have had no conversation with Dr Hamilton

Dr Cleveland—The question of diagnosis of extra-uterine pregnancy is of a good deal of interest Tait has created the opinion, either by statement or by his practice, that it was next to impossible to diagnose a case of extra-uterine pregnancy previous to rupture, but that after rupture it was an exceedingly simple thing Dr Noble, of Philadelphia, does not agree with Tait, and I have lately observed that he reports some twenty-five cases, in the *American Gynæcological and Obstetrical Journal*, of extra-uterine pregnancy, in nineteen of which a positive diagnosis was made Noble says "Of the cases in which a diagnosis was made (one strongly suspected) three of them were instances of unruptured tubal pregnancy, and seventeen (two strongly suspected) of cases in which rupture had taken place"

There is another exceedingly important and interesting point in connection with the subject, viz, the causation of tubal pregnancy In looking over the subject I find it stated that the generally accepted opinion now is that the place of contact of the germ and sperm cell is always in the body of the uterus, and that subsequently the fecundated ovule passes into the tube, lodges there, and then develops It is a pretty theory, if it is a tenable one

Dr E R Le Count—I would like to ask Dr Bishop whether the case was one of tubo ovarian pregnancy? I did not exactly catch the description of the case so as to differentiate it

Dr Bishop—The specimen plainly shows that there was no relation with the ovary in this case The ovary is remote from the tube, and was in that position when I received the specimen

MICROSCOPIC SLIDES

Dr Hugh T Patrick, in demonstrating microscopic slides, illustrating some of the more recent methods of staining nerve tissue, said in substance The anatomist, histologist, and pathologist will probably agree that the nervous system constitutes the most difficult part of the field of their labors, notwithstanding the fact that enormous strides have been made in our knowledge of this system in the last fifteen or twenty years As we follow the steps of this advance, we are forcibly struck by the fact that each step was due in large measure to some improvement in appliances or technique For this reason it is essential that those who would keep abreast of the times and wish to do practical work in the anatomy, histology or pathology of the nervous system must be acquainted with the more recent methods of investigation

Slides illustrating the following methods were exhibited

Kronthal's method which is particularly adapted for demonstrating the larger cells of the nervous system

The Bevan Lewis stain is especially important for the cerebral cortex, and it is claimed for it that it shows details and changes not discoverable by any other method It is particularly valuable in showing hypertrophied neuroglia cells For the nerve cells the speaker considered it inferior to the Nissl stain which shows the structural details of the various ganglion cells with most exquisite distinctness Nissl has gone so far as to make a classification of nerve cells based upon the findings by means of this method

The Rosin stain is simply a modification of Ehrlich's blood stain, and the author would classify the cells of the nervous system on the same basis as Ehrlich divides the various blood corpuscles His views have been fiercely attacked by Nissl

The silver stain (Golgi, Ramon y Cajal,) has given us most of the later important discoveries in the structure of the nervous system with respect to both cells, fibers and the various systems It is not adapted for pathologic work

The chlorid of iron, dinitroresorcin stain, introduced by Platner, is particularly valuable for peripheral nerves The speaker hoped to report more fully upon this method in the near future

The Marchi method is adapted for following the degeneration of fibers not exceeding three months in duration, and in these cases it gives pictures excelling in accuracy and distinctness those of all other methods

Slides were also shown, demonstrating the Flechsig developmental or embryonic method, the new Weigert neuroglia stain, and peculiar results sometimes obtained by the Weigert-Pal method

Dr H B Stehman reported two cases, one of

SUBMUCOUS FIBROID OF THE UTERUS,

and the other of

CARCINOMA OF THE RECTUM,

and exhibited specimens Mrs C J V, age 55, the mother of several children has never had any uterine trouble, and passed through menopause without any special disturbance Two years ago she began to have an occasional uterine hemorrhage, these in time became not only very profuse, but she scarcely, of late was free from them for any length of time Upon examination a large tumor occupying the entire uterine cavity, attached to the left and entire fundus, was discovered The cervix was split bilaterally and enucleated with great difficulty owing to its size The uterine cavity was tamponed with iodoform gauze and the cervix repaired Owing to careful aseptic precautions there was no febrile disturbance and the patient was up and about in ten days

A striking feature of the tumor is not only its form but the depressions which make its resemblance to a fetal head all the more striking Deep perineal stitches were then used to approximate the wound, leaving an opening of about one inch at the upper angle which was partially packed with iodoform gauze, the same extending around a tube which communicated with the bowel This dressing remained unchanged for forty eight hours at which time both tube and gauze were removed and re inserted The deep perineal sutures were left in ten days, when it was found that union was complete throughout Several of the vaginal stitches sloughed causing a fistula which remained open for several weeks, but under faithful dressing closed

The external wound which was left for an anus, showed a disposition to close, and a hard rubber tube attached to a plate, so constructed that it would barely reach the bowel, but sufficiently curved to fit it nicely, and held by soft rubber tubing, overcame this disposition and left the opening that had properly granulated The tube is now worn at night, and the patient is quite delighted with her physical condition which has vastly improved since the operation, and also with the control she has over the fecal movements, provided the feces are not too liquid

Miss M., age 65 About a year previous to the operation she began to feel some soreness in the rectum, which became in time quite distressing during the act of defecation Accompanying the movements there was considerable mucopurulent discharge which was occasionally mixed with blood On digital examination the rectum was found ulcerated, more particularly on the anterior surface and extending up about four inches on the left side The infiltration involved not only the rectum but the cellular tissue separating it from the vagina A modification of the Kraske operation was performed, removing the coccyx with the lower sacral vertebra As you will notice by the specimen, the entire rectum was resected, the dissection including the sphincter ani, the perirectal fat *in situ* and the posterior wall of the vagina up to the fornix, while the bowel itself was amputated still beyond this point The specimen has been in absolute alcohol for three months, and is quite shrunken The vagina was then closed with the stitches on the mucous surface, leaving a canal of about one-half inch caliber

Dr E J Senn read a paper entitled

REPORT OF A CASE OF OSTEOMYELITIS OF THE ANKLE JOINT, ILLUSTRATING THE UTILITY OF BONE CHIP IMPLANTATION

The patient was 18 years of age female admitted to St Joseph's Hospital with disease of ankle joint The case was of two years' duration Diagnosis of chronic suppurative osteomyelitis resulting from a previous acute osteomyelitis Patient was etherized, incision made over sinus into joint cavity A sequestrum in lower end of tibia was removed and some superficial necrotic bone in the astragalus was dealt with by curettement Cavity was disinfected with mercuric chlorid solution and hydrogen peroxid, dusted with iodoform and packed with decalcified bone chip Recovery was uninterrupted the patient bearing entire weight on foot in seven weeks A point of interest in the case was that probably the osteomyelitis had its origin in the tibia above the epiphysis, and instead of the pus taking the usual course and discharging on the surface after penetrating the wall of the tibia, it extended to the epiphysis and emptied into the joint

DISCUSSION

Dr H B Stehman—I do not propose to discuss Dr Senn's paper, but simply to call attention to one point, and that is the method of securing asepsis I would like to raise a protest against one thing that he has used, which is probably one of the most efficient remedies we have to secure asepsis under certain conditions, and that is peroxid of hydrogen I believe I can substantiate what I say While peroxid of hydrogen is one of the most efficient aseptic agents we have, it does more mischief than any other agent we use in a great many cases, that is, we have a more extensive septic infection after the use of it I am not criticising the manner in which the agent was used in this case, but I would call the attention of the members of the society to its dangers Not very long ago I saw a case of death from the use of peroxid of hydrogen, and it is a very dangerous agent to use where we have not free drainage and where there is a great amount of cellular tissue It is dangerous to use in tendons, as it travels along tendon sheaths and carries infection I am satisfied I have seen infection carried up the arm where peroxid of hydrogen has been used in infection of the fingers I simply ask you to beware of it

The President—Dr Stehman's experience is perhaps a little remarkable It may not coincide with the experience of others

Dr Joseph B DeLee—The subject of the use of artificial means to procure obliteration of cavities is a very interesting one and the use of ivory for this purpose instead of decalcified bone chips is now being worked upon by Professor Gluck, of Berlin He takes discs of ivory an inch and a half in size and replaces defects with them, and in the active process which goes on the ivory becomes a part of the bone I have seen dogs operated on in this way and in three or four weeks they would be jumping around the room as if nothing had happened to their femurs He has taken a joint made of ivory, placed it in position with the normal joint, fastened it, and the joint has become active This has been demonstrated on the human being In one case in which the third phalangeal bone of the second finger was missing, by means of two platinum pins he fastened the phalanx, which was made of ivory, and the patient is moving the finger to-day as if he had the normal bone in it

I think there is a large field open to us in the replacement of defects by means of artificial substances Gluck has taken steel pins to replace defects in bone, which become so walled in by the tissues, and especially bone, that they will remain for years as a part of the body In some sections of the joints that were made with ivory, it was not an easy matter to determine where the ivory stopped and where the bone began The subject has not been as well worked up in this country as it should be

Dr George H Weaver—There was one remark made by Dr Senn which particularly attracted my attention, and was to this effect, that probably the space at the time of operation was not perfectly aseptic It has been demonstrated —as I presume most of you know—that it is not necessary to make the empty spaces absolutely aseptic A series of experiments were made by Halsted, of Baltimore, in which he allowed large empty spaces to fill with blood and introduced a considerable quantity of pyogenic organisms into the cavity, finding that these were destroyed and taken care of, that the space was filled with granulation tissue, replacing the temporary blood clot that was formed If the empty space is filled with various materials in this manner, the secretion from the wound following the operation will take care of a certain number of bacteria if they are not too numerous and of too great a degree of virulence

Dr E J Senn (closing the discussion)—I wish to say in reply to Dr Stehman that in certain cases peroxid of hydrogen is harmful, that is, in those cases in which we have a circumscribed focus of suppuration, because the pressure due to the decomposition of peroxid of hydrogen will increase the pressure within the abscess cavity, and disseminate microbes into the connective tissue spaces, and from here enter the lymphatics, eventually becoming diffused In a case like the one which I have described, the whole joint cavity was infected, and there was very little danger of the infection becoming more diffused by the use of peroxid of hydrogen I would ask Dr DeLee whether the ivory joint he mentions was expected to remain as a perfect joint I was always under the impression that ivory became absorbed sooner or later, but not as readily as catgut In the cases which I have seen, where ivory bone nails were used in ununited fracture, they eventually became absorbed, and I should think that ivory used in a joint would also in the course of time be absorbed

Dr DeLee—The part of the ivory that had become united was infiltrated by the bone cells, so that it is possible in the course of time that the ivory will be entirely replaced by bone and perform the functions of a natural joint In the case I have reference to, the ivory joint remained for several months, finally suppuration took place and it had to be taken out The wound was entirely united and we could hardly tell where the bone ended and the ivory began

American Electro-Therapeutic Association.

Fourth Annual Meeting held in New York Academy of Medicine New York, Sept 25, 26, and 27, 1894

William J Herdman, M D, President

(*Continued from page 70*)

Dr W S Hedley, of Brighton, Eng, read a paper on

THE HYDRO-ELECTRIC THERAPEUTICS OF THE CONSTANT CURRENT

This paper chiefly concerns itself with the electric water bath Those localized applications by douche, by water introduced into cavities, or by local immersions are, it is understood, to be dealt with in other communications To designate respectively that form of bath in which the water constitutes only one pole of the circuit or that form in which both poles are in the water the terms "monopolar" and "dipolar" are adhered to It seems scarcely necessary, however, to admit the words "multipolar" of recent introduction To regard the multiplication of electrodes as a divided anode or a divided kathode is probably simpler and certainly more correct *The question of exact dosage in the dipolar bath* is one of pure physics In other words the following is the problem that presents itself with a given current running through a given bath what proportion of such current will find its way through the body of a patient immersed therein? *This question, however, does not enter into the scope of* the present paper It is one of extreme difficulty, and well worthy the attention of those distinguished physicists who are about to discuss it One of the chief difficulties lies in ascertaining body resistance under the conditions of immersion It is obvious that the body then becomes part of a compound conductor and that it will take its share of current according to definite physical laws As to what that share is, various estimates have been hazarded These have varied between 5 per cent of total current flowing and 20 per cent and within an even wider range But so far as the present writer is aware, neither by direct measurement of *body resistance nor by more indirect methods has this* question ever received a satisfactory answer Under these circumstances therefore dosage can only be expressed in terms of a certain current, running through a certain bath, containing a human body under certain conditions of immersion *It also becomes evident that if results are to be compared* and any approach to exactness arrived at, in no form of electrization is "standard" apparatus of greater consequence than in the case of the electric bath The dimensions and construction of the bath tub which the writer has found useful in practice are given in an appendix to this paper With so large a number of electrodes the current is easily manipulated by means of a suitable *switchboard* This subdivision of the two poles presents advantages, both in the way of diffusion and localization *Until after investigations* more extended than any that have yet been carried out, it will be difficult to assign to the constant current bath its exact place in therapeutics So far as the present writer is concerned it is still on its trial He does not hold a brief in its favor Indeed so far from being its apologist he has to confess that he now finds himself using it much less frequently than the bath with sinusoidal and other alternating currents But at the same time he feels bound to ask himself how far his practice is based on careful inquiry, and how far it is a mere experiment, how far carried away by the enthusiasm of others, how far borne along on one of these irresistible fashion-waves that every now and then in medicine as in other things sweep everything before them It may at least be well to suspend judgment until some of the excitement has passed over which, for the moment at least, seems to have placed alternating currents everywhere in the ascendant

Before proceeding to details, it is well in the first instance to clear the ground by distinguishing between the electric and the purely thermal effects of a bath The warm bath (*i e* the bath at 95 to 104 degrees F) slightly increases the activity of the circulation and somewhat retards tissue metamorphosis It is a valuable soothing agent, but in other respects its effects on the system are almost inappreciable (Shelly) It appears therefore that we have not much to expect from the warm bath *per se* As a means, however, of applying electricity to the body it is invaluable

With the dipolar form of bath and a bath tub of the construction and dimensions indicated[1] the writer finds that he uses a current strength of 50 to 280 milliampères With the cervical, dorsal and terminal electrodes in action the first bath begins at the lower figure (the current being *gradually* turned on through a cell collector or rheostat) for the first five minutes A somewhat greater strength is gradually attained during the rest of the time—which altogether extends to eight or ten minutes for the first bath Both duration, direction and strength will vary according to the therapeutic result aimed at, *the strength and electrical capacity* of the patient, the number of electrodes in action and other circumstances The case is then watched for a day or two, and another bath given with an increasing current In another day or two, a third bath is administered Tolerance having thus been attained and no contra-indication having manifested itself, a series of half a dozen baths are taken in successive days Then follow two or three on alternate days, an average "course" thus extending over about three weeks and consisting of twelve baths The position of the patient in the bath will vary according to circumstances—completely immersed if desirable to act on the whole length of the spine or sitting upright on the gluteal electrode in the direct line of current between the two laterals in cases where it may be intended to influence the hips or the organs of the abdomen and pelvis, the arms being allowed to lie across the line of current flow or carried to the front of the patient so as to avoid it Temperature will vary according to circumstances, but 94 to 100 degrees F is a sufficiently *wide range in this climate It is often considered useful to* allow a faradic current of moderate strength to run for a few minutes before the patient emerges from the bath, or while he stands up in the water a cold affusion in some form or a mild faradic douche is applied, according to individual toleration The patient who finds it necessary to undergo a course of electric baths has not generally any considerable resisting power to cold, he is moreover often nervous or hyper-sensitive Therefore if stimulation either by cold affusion or by the electrized douche be attempted it is obvious that the operator must have his apparatus well in hand It is scarcely too much to say that the success of the electric *douche depends upon the easy graduation and the perfect* controllability both of its electric and of its hydriatic strength A quarter of an hour's rest is taken and weather and strength permitting, the patient walks at least part of the distance home In administering a bath to insane, paralyzed, anesthetic and other helpless people, special precautions must be taken especially if the patient be heavy as well as helpless *In certain cases, paralyzed in the lower extremities only*, I have availed myself of the suspension tripod ordinarily used for locomotor ataxy With this placed across one upper corner of a low bed and with an improvised seat or "chair" made of straps or stout webbing, a patient can easily be swung into a bath placed alongside the bed as seen in this rough sketch

If wholly helpless, the apparatus figured and described by Mr Stephen for the cold bath treatment of typhoid may be used Of this, also, I attach a very rough reproduction

In all such cases the greatest care must be exercised, not only in placing the patient in the bath, but in looking for wounds, ulcerated surfaces, skin abrasions, etc, and protecting them from the action of the current

Before being placed in the bath the condition of the patient's "sensibilities" (tactile—pain—temperature—muscular sense) must be carefully inquired into It is within the writer's knowledge that in the case of tabetics who were also anesthetic, serious ill effects have followed the administration of electric baths by incompetent persons whose only limit to dosage is what the patient will bear

The question of polarity will have to be decided on general principles, or rather by a process of cautious experimentation The late Dr Stevenson states that the direction of current flow should generally be from the feet to the head No reason seems to be assigned for this rule and it is not altogether easy to feel satisfied of its usefulness, but always necessary to bear it in mind, as being the opinion of an admitted authority and the outcome of a large experience

Although the douche is the subject of a special paper, it will not be out of place to advert to it here as a means of applying the constant current for the purpose of general electrization To avoid the necessity for repetition and to secure at the same time a certain amount of completeness, some details of apparatus with explanatory remarks thereon, already published by the writer, are added as an appendix to this paper

Rules for administration, intensity—direction and duration of current flow—the necessity for a *gradual* making and breaking of circuit (unless when the special effects of sudden rupture or reversal are desired), all these things are as in ordinary electrical applications and need not be entered upon before a society like this. It will be noticed that the douche apparatus is *single*, not double. The latter has recently been recommended and the details of application as given in a recent essay are as follows: there are two douches, or jets, one attached to each pole of the battery. While one is directed upon the body of the patient, the other is directed downward on the cemented floor of the cabinet, until a sheet of water is formed surrounding the patient's feet, thus constituting the second or indifferent electrode. This seems a very unnecessary application of douche to the floor and it is difficult to see why the second electrode be not in metallic communication with the source of supply. There are circumstances when two jets might be useful to secure a strict localization, but any one who has tried to manipulate two jets held at a definite distance apart, and both at equal distances from the body, and at the same time to watch the galvanometer, will not be slow to express a preference for a purely polar application and an "indifferent" electrode. Those who are familiar with what has been already written on this subject will not materially add to their knowledge by a perusal of this essay unless indeed, it be by the following electrical discovery. Its writer finds to his surprise that not only water but watery vapor will conduct his currents and the reason why he thinks so is this: the wire connecting one pole of the induction apparatus to douche No. 1 having been detached from the latter, rolled up and hung

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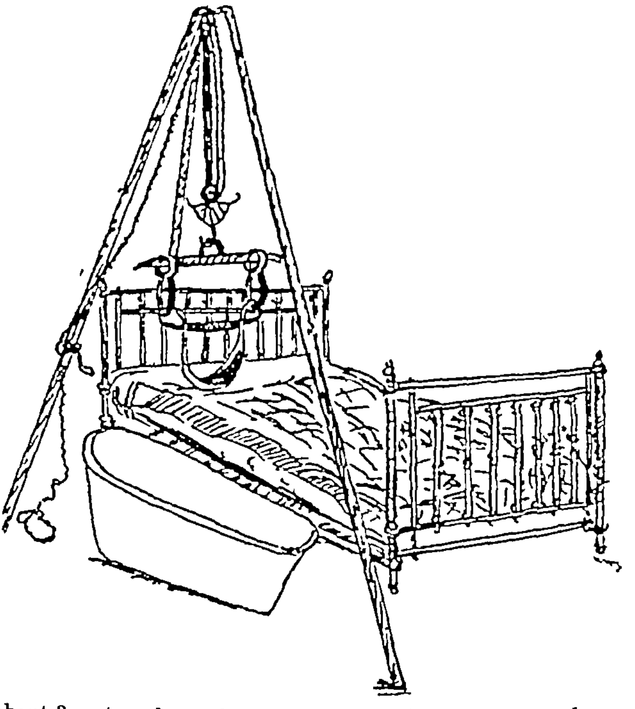
[1] In Appendix



about 3 meters from the patient (its other extremity being still connected with the coil), and the second wire still attached to the second pole of the induction apparatus as well as to the metallic part of the second douche, and the cabinet full of a thick cloud of watery vapor—behold, a current was established. The patient said he felt it and the fact, it is stated, was further verified by a galvanometer and a constant current. "Evidently, therefore, the circuit was completed by the watery vapor surrounding the body of the patient."

Before publishing this conclusion it might have been well if the writer leaving behind him his douches and cabinets and moisture laden air—but taking with him a large coil and (say) two bichromate cells to drive it, had proceeded to a dry room and there carried out the following experiment: attaching a conducting wire by one of its ends to the secondary of the coil, the other end of this wire being free and the other pole of the coil being "idle," let the coil be put into action. If now the free end of the wire be touched by the finger, a current is felt to pass each time contact is made. A person slightly insulated might then take into his hand an ordinary electrode attached by its rheophore to one (secondary) pole of the coil. If now the "operator" lightly touch the person's forehead a distinct electrical sensation is felt, other things being as in the last experiment—the "idle" pole of the coil might be connected with a gas or water pipe. Then if the arm be touched by a second person standing "to earth," a distinct effect just short of muscular contraction will be produced. These are not mere experiments, but modified in a variety of ways they are most useful in practice. But the present point is this, that in all these cases, there is a circuit completed—one pole is "idle" and—where is the moisture-laden air? A few experiments with this "idle pole" work might have suggested to the writer in question, that when he hangs up his wire or carbon plate attached to one pole of the coil, he is perhaps in reality only making a good "earth" for his idle pole—via ceiling, wall and floor, and that the earth rather than the watery vapor is the medium of conduction. But there is the control experiment to deal with. It is stated that when a galvanic battery was substituted for the coil, a galvanometer in circuit showed a deflection. Nothing is stated as to the character of this deflection. Was it a steady and persistent rise denoting leakage—or was it a "kick" denoting some possible capacity effect, or was it neither, or only an error of observation? Be the explanation what it may, the following simple experiment will exclude the one (watery vapor conduction) offered in the essay referred to. Let the experimenter provide himself with a tea kettle boiling and with a

good jet of steam issuing from the spout. Then taking a metal tube say two inches long by two inches diameter, connect it with one pole of a c. c. circuit having a pressure of 115 volts, placing in circuit a galvanometer, and a rheophore of (say) 600 ohms. Hang this tube at the end of the kettle spout so that the steam issuing from the spout becomes condensed in the metal tube and assumes the appearance of a dense cloud of watery vapor. To the other pole of the source of supply, attach by its rheophore an ordinary metal disc electrode having a wooden handle. Now, holding this handle, let the watery vapor driven through the tube play upon the metal disc held at say one-fourth of an inch or as near as possible to the tube. The ordinary galvanometer will not betray the completion of a circuit by the very faintest "kick." How, then, can it be hoped to convey a therapeutic current by such means? Now all this is very elementary and I owe an apology for bringing it before this society. But the case quoted is no solitary instance of that loose and inaccurate work which has again and again brought medical electricity into disrepute. Better than to theorize is simply to *try*.

Speaking broadly, the painless and evenly distributed current of the electric bath makes it one of the best methods of general electrization, with, at the same time, a considerable power of concentration on special parts, according to the indications of the case. In all states of general debility

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[2] Sur une nouvelle methode d'application des courants electriques a l'aide de l'eau et de la vapeur d'eau. Par le doctor P. Guyénot.

and impaired nutrition (Erb), in weakness or exhaustion of the spinal nervous system, "nervous dyspepsia," palpitation hysteria (Erb), neurasthenia, (' nervous breakdown,") and many of those diseases referable to some derangement of the nervous system without appreciable lesion, commonly called neuroses, it may be resorted to with excellent and unique results Neuralgias, sciatica (whether perineuritic or purely neuralgia), paralyses both of central and peripheral origin, chorea, primary lateral sclerosis, muscular rheumatism, gout, rheumatoid arthritis and occasionally chronic articular rheumatism are all recorded to have been cured or alleviated by its use It is said that it has been used with good effect in some irritative conditions of the spinal cord, in alcoholic or mercurial tremors, plumbism, and even paralysis agitans (Lehr, Erb), and peripheral neuritis from whatever cause, though not, perhaps, in every stage

Of the cases which the present writer has found himself able to treat by the constant current bath with a fair measure of success, perhaps the largest is that of rheumatoid arthritis He, comparatively seldom, is fortunate enough to encounter this class of case in an early stage when it can be dealt with as a trophoneurosis—but even when of old standing with articular mischief well established, locomotion may be improved and pain relieved more frequently, at least, by this than by any other remedial measure with which the writer is acquainted—with the exception perhaps of baths with the current from alternating light circuits, having a pressure of 100 volts and about 8,000 alternations His experiences of this treatment in other diseases may be summarized thus muscular rheumatism frequent and rapid cures—not superior, however, to other electrical methods Chronic articular rheumatism—results *on the whole* disappointing Gout often improved after a course of baths in suitable cases, but being generally combined with other remedies and *always* with dieting, the exact relationship of cause and effect becomes comparatively obscure Sciatica, good results—not superior to alternating current baths but perhaps superior in the majority of cases to other electrical methods Urethral synovitis only yields to these baths when the disease has continued for some time and is probably waning in the ordinary course of events Locomotor ataxy—occasional alleviation in symptoms but not always easy to separate results from those periods of arrest which usually characterize the disease *Not all cases suitable* Chorea —ordinary cases sometimes get rapidly well under a course of these baths as after faradic baths or any other form of treatment, or after no treatment at all But that comparatively small class of cases (occurring before 20) which not only do not cure themselves but often resist even rest and arsenic, and known as "relapsing" chorea have been treated with only temporary benefit, lasting perhaps for only a few hours after each immersion, seldom with a permanent success In amenorrhea, a current localized between the lateral and gluteal electrodes has in several instances been found quickly successful Among the rarer cases one of melancholia and one of hysterical paralysis have been greatly improved In the insomnia of neurasthenia this form of bath has been found useful as a beginning of electrical treatment A case of "ataxic paraplegia" has been notably benefited and in Parkinson's disease the tremor temporarily alleviated In the four last-mentioned cases, however, alternating currents were also used

The following result of treatment by electric baths has been kindly sent me by Dr Lewis Jones from recent records of the Electrical Department of St Bartholomew's Hospital

A—GALVANIC BATH, ANODE TO FOOT

Sciatica

1 Louisa F, 41, twelve baths, 200 milliampères, sciatica, cured, general health improved much

2 Louisa F, 41, eight baths, cure

3 Henry G, 64, relieved after four baths, returned five months later, eight baths, *but no relief*

4 Henry G, 64, cure after four weeks, eight baths

5 M, gonorrheal rheumatism, nine baths, no definite improvement

6 F, rheumatoid arthritis, twelve baths, slight improvement

B —FARADIC BATH

7 H B, male, 43, 7 baths, induction coil, cure

8 Male, 47, seven baths, induction coil, cure A long previous treatment with anode to thigh (without baths) ineffectual

9 F, 50, rapid cure, number of baths not given

10 Thos H, 25, galvanic baths first, then anode to thigh Then faradic baths last, most useful—relieved

C —ALTERNATING MAINS

11 R E, 60, male, fifteen baths, sinusoidal, cure

12 F, 30, *female*, four baths, sinusoidal, cure

13 F, 30, female, same patient with general rheumatic pains two years previously, had galvanic baths, twelve, and was cured

14 W H, 28, male, five baths, much relieved Left London, wrote a week later that improvement continued

15 G T, 25, female, severe neuralgia (cervico-brachial), ten baths, sinusoidal, cure—old standing case

16 F, rheumatoid arthritis, twenty baths no improvement

17 F, rheumatoid arthritis, twenty baths, doubtful

Those rarer uses of the constant current bath consisting of the introduction of medicinal substances, or the elimination *of metallic impurities* ("medication and de medication") *must be considered* The latter is demonstrable and certain Apart from other evidence, a case has occurred within the writer's knowledge where an appreciable quantity of lead which could have come from no other source than the tissues of the body, was found in the deposit on the copper plate To carry out the process in a case of plumbism, a little sulphuric acid is added to the water of the bath into which a large copper plate connected with the negative pole of the battery is introduced[3] The patient then grasps the anode (outside the water) and the current is gradually turned on The lead from the patient's tissues becomes deposited on the copper plate according to the law well known to electro platers For metals other than lead, nitric acid takes the place of the sulphuric The question of making use of the constant current bath as a means of introducing medicinal substances into the body deserves a close and patient investigation Now that the process of cataphoresis has passed the experimental stage, this method is not without a promise of tangible results Its practicability will depend upon the density of current necessary to secure with a given substance cataphoric transference through the skin If, in order to secure a large surface for the anodal diffusion, the bath be made monopolar and the water anode, the density of current per square centimeter of body surface must be exceedingly small If the external electrode be anode, it is difficult to see any advantage of the bath over ordinary methods of cataphoric medication Speaking in the absence of experiment, which alone can decide such questions, it would seem that the dipolar bath, in which large currents are practicable, will be found the only efficient form of bath for this purpose For use with mineral waters, and equally for medicated water, Gartner has, it appears, introduced a division or diaphragm into baths. The present writer has not seen this arrangement, but presuming that the body passes through the diaphragm and even without supposing the possibility of securing an actual electro tight junction between the two, the arrangement seems practicable (It may be suggested that (supposing an electro-tight junction), the same expedient might also perhaps be available to determine body resistance under conditions of immersion) The questions, then, for the experimentalist seem these What is the current density required to pass a certain substance in a solution of a certain strength through the skin? Is such a density theoretically secured on the surface of the body by the current proposed to be used? Can the medicinal substance be found in the secretions or excretions of the body after having been subjected to the conditions named?

The treatment of skin disease by electrical methods is one of great and growing importance The material in possession of the present writer does not enable him to deal with it in any satisfactory way so far as the constant current bath is concerned Judging, however, by the few cases in which he has seen it used (urticaria and eczema), and by the effects of other forms of electrical treatment with which all are familiar, this form of bath would seem to deserve a patient and extended trial No doubt there are those present who have valuable experience on this point For purposes of the present paper and his own information the writer has consulted special works on cutaneous disease, but without adding materially to his information Among these works, however, there lies before him a brochure on "The Bath in Diseases of the Skin,"[4] wherein (at p 81) he finds a passage so interesting and instructive that he ventures to extract it

"It will naturally be expected that I should say something of the galvanic baths I frequently employ them through the medium of a foot bath, one foot being placed on each handle and the force being given by the 100 cell Becker Muirhead used at the hospital, or a good sized wheel magnet[5] After indicating this latter novel source of galvanic supply the author proceeds 'But to suppose that a galvanic bath possesses any power beside that inherent in galvanism I certainly say that if such be the case it has entirely escaped my powers of observation" So say we all and it would be pleasant to leave the question at a point where none can differ but the following passage seems too instructive to omit "In matters of charlatanism an amount of credulity is constantly met with even among the educated classes of this country which would be considered abject superstition in a Hottentot The opinion may seem a strong one but what are the proper words to use respecting the confidently expressed statements by patients that they know that the disease has been drawn out by the electricity and that they have seen it deposited at the bottom of the bath in the shape of shreds" To those who know anything of the matter an interesting question here suggests itself Was this a case of metallic poisoning? Is it possible that a patient in describing the disease as "drawn out by the electricity,' might have been making a practically accurate statement of what sometimes is known to occur? Is it within the bounds of possibility that this was an instance of the elimination of metallic impurities from the body by the agency of the constant current bath—a case of "de medication"' Perhaps after all a patient without the learned author s medical (and electrical) knowledge in speaking of such a deposit had scarcely done any thing so outrageous as to deserve to be called a Hottentot We must, however, tear ourselves away from this fascinating and instructive volume, this paper has already grown to undue length and its writer owes and offers an apology

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[3] Unless the bath itself be of copper

[4] The Bath in Diseases of the Skin, by J L Milton, Senior Surgeon to St John's Hospital for Diseases of the Skin Lecturer on Diseases of the Skin Member of the Harveian Society Corresponding Member of the New York Dermatological Society, etc

Appendix —(Not forming part of the foregoing paper, but explanatory of it and inserted here to secure a certain measure of completeness without the necessity of repetition)

Against the hydro electric methods, more perhaps than against any other form of electrical treatment, has been levelled the charge of empiricism And, perhaps not without reason Never having been adequately investigated their real power is but little known, and their real province but little understood Could anything for example, be looser and more haphazard than the way in which that commonest and best of hydro-electric methods the electric bath, is commonly prescribed and administered? For carrying out treatment by these methods the electrical equipment must be not less complete than that for other purposes The requirements will be

1 A constant current supply in the shape of a battery with a low resistance which will work up to a powerful current strength through the estimated R If we take our supply from an electric light circuit, it will have to be safe-guarded by shunts and appropriate resistances in addition to a reliable "cut out"

2 A means of opening and closing the circuit, and regulating strength by easy gradation so as to avoid pain or shock, *i e*, "current collector," or rheostat or, in dynamo circuits, an adjustable rheostat or a sliding shunt

3 A milliampère meter, *i e*, a galvanometer graduated in milliampères and registering up to, say, 500

4 A powerful induction coil for faradic bath or supply from an alternating dynamo

5 Some means of suddenly reversing the current (current reverser" or "pole changer") as well as an arrangement for throwing the two currents together for combined use ("current combiner" or "De Watteville key")

6 As an adjunct but not an actual necessity may be mentioned a voltmeter, useful for occasionally determining the electro-motive force of the battery, or any particular cell, and for other purposes Some galvanometers are also volt meters

The ordinary electric bath is best made of oak or porcelain, perhaps porcelain for choice, if expense need not be considered Insulation must be carefully attended to, both of conducting wires and waste pipe, the latter being insulated from earth by a short length of rubber tubing let in near the bath

The bath may be an ovoid oak tub, four feet ten inches long and two feet six inches at greatest width, which is about two inches nearer head than foot Height at head one foot eleven inches, height at foot one foot five inches There are five fixed electrodes of bright metal covered only by light removable open wooden framework, size as follows

Cervical, 28 x 20 cm
Lumbar, 24 x 17 cm
Lateral (2), 20 5 x 18 cm
Gluteal (circular) 30 cm (diameter).
Terminal (foot , 22 x 38 cm

In addition to these there is an electrode for monopolar purposes consisting of a removable metal rod, one inch in diameter, covered with wash leather This is fixed across the widest part of the bath, and can be conveniently grasped by the hands These electrodes are connected, by carefully insulated wires with seven terminals, and these in turn lead to a switch board, so arranged that by the insertion of plugs any electrode can be brought into action either as anode or kathode The connection with the battery, coil, or other source of supply is by means of well insulated connections leading to two ordinary "binding posts" on the plug switchboard

It is best in the interests of cleanliness, if for no other reason that the electrodes be of bare bright metal, as the cleansing and changing of covers is often very imperfectly attended to and is a matter of serious consequences sometimes as several unfortunate instances show

The size of the electrodes will depend upon the theoretical considerations already advanced, looked at in the light of experimental results which are detailed elsewhere[6] But, speaking generally, the sizes and positions of those electrodes already mentioned are suitable The only further addition (and a very useful one) is the so called "paddle" electrode By means of a long insulated handle this electrode can be applied to the vicinity of any part of the body upon which it may be desirable to concentrate the current

For the comfort of the patient it is sometimes considered advisable to use some support for the shoulders Individual views and ingenuity will here be the guide One way of effecting the purpose is to use straps, one under the back of the neck, the other supporting the body under the arms Another method is to have an open framework, made of wood and webbing, somewhat like the invalid appliance known as a "bed rest" For spinal affections the wooden "back-rest" may be modified by having it made solid, excepting a longitudinal opening throughout its whole length opposite the vertebral column, the upper electrode being of such size, shape, and distance from the part as to allow the lines of current flow to concentrate themselves on this opening My experience however, is that with the bath shaped as described—the fixed metal electrodes in the positions named, and controlled by a switch-board—the current can be so handled as to concentrate it, or diffuse it, or send it longitudinally, or transversely, or obliquely, through the water as may be desired

The question of "density," which is so important a factor in ' dosage," and which in ordinary electrical applications depends upon the size of the electrodes, becomes a very complicated one in the dipolar bath Here it is evident that not only the size of the electrodes is to be considered, but also the amount of diffusion the current undergoes in passing through the water from the electrode to the body, and this will depend partly on the size of the electrode, partly on distance, and partly on the conductivity of the water In other words, we have not only to consider the size and position of the electrodes electrizing the water, but we have to look upon the whole extent of water in contact with the body, as a huge electrode carrying a widely diffused current with a density diminished in proportion to its diffusion

The device of placing a partition or diaphragm across the bath through which the immersed body passes seems well worthy of a trial It must in an important degree influence current diffusion, and if further investigation and experience prove its usefulness it ought to become a constant feature of the "standard" electric water bath

(To be continued)

American Climatological Association

Twelfth Annual Meeting held at Hot Springs, Va , June 13 and 14

The President, Dr S E Solly, of Colorado, made a brief introductory address, congratulating the society upon the good attendance and the choice of such a pleasant place for meeting

Dr Guy Hinsdale of Philadelphia, read a paper on "Recent Measures for the Prevention and Treatment of Tuberculosis," reviewing the provision made in England, Germany, France and the United States for the care and treatment of the consumptive poor

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[5] The Hydro-electric Methods in Medicine W S Hedley M D, July 1, 1892

[6] Hydro-electric Methods

Dr Frederick I Knight, of Boston, reported that the committee having this matter in hand in Massachusetts had recently secured an appropriation of $150,000 from the Legislature for the erection and maintenance of a hospital

Dr H L Taylor, of St Paul, under the title "Clinical Results of the Use of Tuberculin," gave a report of seventy-two cases, with a complete analysis of thirty-nine cases, treated by this method Eighteen were third stage cases, of these seven died, five became worse, five improved, and one improved greatly Taking the first and second stage cases together—the only cases in which the physician would encourage a patient—there was a total of twenty one cases with a mortality of 10 per cent In the early cases by themselves, 81 per cent improved greatly While not considering tuberculin a certain remedy, Dr Taylor held that its careful use is not dangerous, and that, in beginning cases its use should be encouraged

In the absence of Dr V Y Bowditch, chairman, Dr E O Otis, Boston, presented the Report of the Committee on Health Resorts in the United States The work of this committee will appear from year to year in the transactions of the society and will ultimately be published in book form

"Sunshine Statistics" was the subject of a paper by Prof Mark W Harrington, Chief of the Weather Bureau, Washington The sunshine—that is, the presence of a direct ray of the sun, not shut off by cloudiness—forms one of the most interesting elements of meteorology, from a sanitary standpoint The data considered were all from the United States, with the exception of two stations in Canada The number of years during which these data have been collected in the United States is smaller than in Great Britain, and there is a large literature and a long series of observations in English and other European publications Professor Harrington's paper was divided into three parts a description of the photographic sunshine recorder, with the results obtained from it, a discussion of the thermometric sunshine recorder, a comparison of the results obtained in the United States from these two records

Dr W F R Phillips, of the Weather Bureau, read a paper on "Mean Atmospheric Temperatures" Throughout the month of July the average daily temperatures exceed 70° in the States bordering on the South Atlantic and Gulf coasts and in the greater part of the Middle Atlantic States

The paper gave statistics as to the mean minimum temperatures and the mean maximum temperatures in July

The variability of temperature or average difference from day to day is less in July and August than in any other months of the year and it is so nearly alike in either that it is not practicable to discriminate between them in this respect In other words, July and August are the most equable months of the twelve as regards temperature On the Pacific and Gulf coasts the variability is little more than 1 degree As we go northward and inland the variability gradually increases In the latitude of Savannah it is equal to 2 degrees, and in that of Washington City 3 degrees The greatest variability is observed in Montana and in the Dakotas, where it reaches 4 to 5 degrees

East of the Rocky Mountains the highest one day mean temperatures have been observed generally in the central valleys and in the South Atlantic States

The lowest mean temperatures for one day have ranged from 75 degrees on the Gulf to 55 degrees in the northern portions of the United States In the greater part of the country the lowest mean temperatures range between 60 and 65 degrees

Dr Richard C Newton, of Montclair, N J, read a paper on "Some Observations which appear to establish the Aerial Transportation of Malarial Germs" After reviewing the evidence brought forward to prove the transmission of malaria by water, he took up the literature bearing upon the belief in aerial transmission He believes it fair to assume that in places ordinarily non-malarial the drinking water is probably the more frequent cause of ague, when it does appear, than the atmosphere, but that in places like the Campagna of Rome the Orinoco River in South America and the jungles of East India, where malaria is so constant and so deadly, the atmosphere is the usual method of its transportation

"The Geographical Distribution of the Mineral Springs of the United States," was read by Dr A C Peale, Washington Dr Peale has recently compiled two maps, one showing the distribution of the 330 springs, the waters of which are put upon the market to the amount of 20,000,000 gallons annually, with a valuation of from four to five million dollars Upon the other was plotted nearly seven hundred mineral spring resorts The majority of the springs used commercially are in the Eastern United States and the Mississippi Valley, not because the number of springs is much greater in these regions, but because the resources are better utilized The writer gave an interesting discussion of the subject, including a description of the springs of the various districts and showing their dependence upon the geologic structure of the country

Dr S E Solly, of Colorado Springs, read a paper upon "The Influence of Heredity upon the Progress of Phthisis," to be published in full in this Journal

At this session, papers were also read as follows "Etiology and Treatment of certain kinds of Cough," Dr Beverly Robinson, New York, "A Case of Simple Chronic Pleural Effusion, its Final Outcome," Dr J C Mulhall, St Louis, "Two factors in the Production of Disease in New York City," Dr Thomas Darlington Jr, New York

Officers for the ensuing year were elected President, Dr James B Walker, Philadelphia, Vice President, Dr C E Quimby, New York, Treasurer, Dr James E Hart, Colorado, Secretary, Dr Guy Hinsdale, Philadelphia

Dr Frederick I Knight, of Boston, was elected Representative to the Executive Committee of the Congress of American Physicians and Surgeons, and Dr R G Curtin, of Philadelphia, alternate

On motion of Dr F I Knight, the following resolution was unanimously adopted

Whereas, Since tuberculosis has been demonstrated to be a communicable disease, it has become doubly desirable that hospitals for the reception of the poor afflicted with this disease should be established

Resolved, That the American Climatological Association recommend the establishment of such hospitals in every State, not only for the great suffering attending this disease among the poor, but also as a protection to the community against its spread

At the request of the Association, Dr C E Quimby presented the following resolution

Gentlemen of the American Climatological Association

Duty and established custom makes it fitting that in formal manner your committee report to this Association the death upon Jan 23, 1895, of our former President and member, Alfred L Loomis, M D, LL.D

Love and respect make it imperative that in so reporting we dwell for a moment upon the many ties which united us, and make some record by which his many and varied gifts and qualities which have enriched us may be made a powerful influence upon those who are to continue this Association

Dr Loomis was born in Bennington, Vt, in 1831 His early education was largely under private tutors at Woodstock, Vt, while his academic degree was taken at Union College After graduation in 1852, at the College of Physicians and Surgeons, he served the usual term in Bellevue Hospital Very soon after starting in private practice he was appointed visiting physician to the same hospital, where he continued in active duty until the day of his final illness For more than thirty years Dr Loomis held the chair of pathology and practice in the Medical Department of the City of New York, and to his energy and wise efforts, more than to any other force, may be attributed the growth and prosperity of that institution

In his professional life, Dr Loomis was preëminently an active, energetic, sagacious physician In all his relations to medicine and medical progress he was conservatively but uniformly progressive, never assuming an advanced position until fully or even superfluously convinced of its accuracy, he was unfaltering in its defense A similar faith in the eventual success of truth, made him unable even to consider the possibility of failure in any purpose once undertaken

Dr Loomis was one of the faithful band who originated this Association, and we all know how faithfully he worked for its advancement and success He was its first President and was again its President during the first Congress of American Physicians and Surgeons in Washington assembled and, as our delegate, was elected the President of the third Congress

At one time efforts to merge the American Climatological Association into another national organization threatened to destroy it Dr Loomis averted the danger if any such existed He had a most enviable reputation, not only in his professional but also in his private life He was a frequent contributor to the proceedings of this Association

In expressing our sense of personal as well as united loss in the death of Dr Loomis, we realize that we can do him no greater honor than to present this record of his work for a perpetual stimulus to members of this Association

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SATURDAY JULY 20, 1895

DEGENERACY

This term has suddenly come into prominence, as describing a class of popular modern literature DR NORDAU's work on "Degeneracy" has created a profound impression and roused bitter criticism and extravagant praise He attempts to show that the literature and many of the popular authors of to day are degenerate and diseased DR NORDAU is not only a physician and practical student of mental disease, but a clear, vigorous thinker and writer and has made out a very strong case While a large number of physicians are not very familiar with many of the authors described, they will recognize the evidence presented, and will follow the author with keen pleasure in his grouping of symptoms and the deductions which follow There can be doubt from the writings alone, that a large class of books widely read are the products of thoroughly diseased minds Stories, essays, poetry and discussions of popular topics have certain stigmata of diseased and disordered reasoning that are unmistakable The reader is referred to DR NORDAU's work for a full discussion of these topics

The question is often asked by thoughtful men, why medical literature should be so vague and confusing? Why the ordinary journal articles from the *British Medical Journal* and London *Lancet*, down to the latest-born periodical which boasts of coming to 'fill a long-felt want," should have so many signs of egotism, mysticism and dogmatism? Why so many writers and teachers should manifest such hysterical confidence in every new theory and alleged discovery in medicine? Why should the practice of medicine develop in certain persons intense selfishness, credulity and ego manias? These and many similar questions have often recurred to close observers, and are unexplained except on NORDAU's theory of degeneracy The rush of half-trained, incompetent young men to obtain entrance into the profession of medicine, and the selfish, grasping teachers and colleges who encourage this, and the isms and pathies, mystical, confused and narrow that gather up these men, are symptoms of degeneration There is arrested development, imperfect growth, degeneration both physical and mental, with vicious training at the bottom They come into the profession prepared to foster all sorts of errors and new beliefs, to follow blindly the teaching of some prominent medical man, gathering round the flaring lights of some novel theories, and accepting them without question Or they may mount some pedestal of their own fancies and go down through life supporting wild theories and defending strange, unhealthy views of science, superstitious egotists, impressionists, medical mystics Clearly they have passed over into the army of degenerates, and leave unhealthy influences and memories behind them

All these men lack soundness of mental development, they are inharmonious in conduct and judgment, they seldom advance the cause of truth, and rarely ever do any scientific work that is sound and true In medicine they are pessimists and critics, pulling down every good work, and pointing out bad motives in others who are working for truth In medical colleges they are bitter rivals for places and supposed honors, and boating manias, mechanical teachers and call themselves practical, as an explanation for want of technical knowledge As journalists, they are chiefly noted for frantic efforts to become popular with their readers and avoid offense on every topic The reader readily recognizes the vast number of books, papers and journals on medicine that are as dreary and destitute of scientific life as the alkalin plains of the West The authors are simply writing out their own degeneration, pointing out evidence of dementia, melancholia, deliriums, symbolisms, mysticisms, decadents, and general failure of healthy vigorous thought

NORDAU's degenerates are not all writers of fiction and teachers of philosophy They are found in medicine, in law and theology Men who oppose reforms in preventive medicines, men who oppose laws for the regulation of practice, who want all barriers thrown down and a free open field for all kinds of practice, who would like to follow medicine as a trade and use the papers to advance their interests, the same as a circus, are evidently away over the border lines of health Physicians who are looking for truth in the mysteries of quackery and concealment, who expect figs of thistles and grapes from thorns, who expect facts by intuition and without labor, and become enthusiastic defenders of theories that are untested and unproven, are clearly of NORDAU's class Medicine, like other sciences, is not a great camp-ground for parade and show and trade It is a road narrow and rough, leading out into the unknown, a road for discovery, for investigation, lined with facts and new truths No man of health properly trained can traverse this road without observing new facts and new laws governing them, and be impressed with the vastness of truth and his limited capacity to understand it Modesty, conservatism and persistent study of the constantly changing evidence, are signs of health Dogmatism, assertiveness, credulity and hysterical enthusiasm in defense of facts show an involved brain The mania to write, to teach, to lead as authority, with no bases but the inner consciousness and some acquaintance with cotemporary medicine, and a morbid faith in the writings of foreign authors, is a sad sign of decadents

What we need is a larger, clearer, more vigorous literature, a literature of facts, urged by robust men, who stand on strong ground and who write and teach for the purpose of stimulating further study and inquiry along the same lines

THE EARLY DIAGNOSIS OF DIPHTHERIA AND THE PHYSICIAN'S DUTY WHEN CONFRONTED WITH CASES OF DOUBTFUL CHARACTER, PRESENTING SYMPTOMS OF DIPHTHERIA

The existence of the Klebs-Loffler bacilli in the secretions or exudations, upon an acutely inflamed pharyngeal mucous membrane, or upon the tonsils, as demonstrated by microscopic examination of cultures, is relied upon at the present day as the prime indication that diphtheria, or, to be more specific, diphtheritic angina is the correct diagnosis in the case Similarly, when the colonies of bacilli are located beneath the epiglottis, we recognize the presence of a diphtheritic laryngitis, which may or may not be preceded, attended, or followed by angina, but is still truly diphtheria So firmly is the bacteriologic diagnostic test relied upon, that communities and boards of health all over the world are establishing expensive laboratories mainly for the purpose of making these culture-tests, the finding of the Klebs-Loffler bacillus in doubtful cases being held to be conclusive evidence of the presence of diphtheria Since the diagnosis of diphtheria often involves forced isolation and so-called household quarantine, with all the vexation, inconvenience and disturbance of social and business relations resulting therefrom, it becomes a matter of considerable moment, at least to the city physician, that he shall avail himself, in all cases of supposed diphtheria, of the assistance offered by the municipal laboratory This is the more important, because as it appears to us, in thus coming to the aid of the physician, the authorities formally relieve him of the risk and responsibility of making the positive diagnosis of diphtheria

It must be borne in mind that under the regulations prevailing in our principal cities, the diagnosis of diphtheria falls upon a family like a veritable calamity The Health Officer enjoys the unenviable distinction of adding new terrors to death His advent in the family circle is regarded with undeserved but undisguised aversion, and his departure is the occasion for general rejoicing and libations of disinfectant solutions Under these circumstances it is only natural for a physician to proceed with due caution when confronted with a case of suspicious-looking sore throat, if it be diphtheria and he should neglect to report it, he may find himself in the disagreeable position of becoming the object of official censure, in addition to being treated as a criminal and being forced to pay a heavy fine, or he may report it and incur unreasonable enmity, the consequences of which he can not foresee Should he be so unfortunate as to make a mistake in diagnosis, or should such a mistake be only asserted by the patient, the results may be sufficiently serious, as in a case occurring in Philadelphia recently, where damages to the amount of $50,000 were claimed for an alleged error in diagnosis, the patient having been taken to the municipal hospital on the physician's diagnosis of diphtheria In such an emergency, the possession of an official certificate from the public bacteriologic laboratory, stating that the characteristic diphtheria bacilli were present in the secretions, would have a very soothing influence upon the mind of the doctor defendant

The duty of the physician, when called to attend a suspected case of diphtheria, is stated in a recent monograph by L FURST[1] in terms which may be regarded as expressing the most recent views held in Europe, with reference to the early diagnosis and treatment of this important disease In diagnosis, he gives the first place to the clinical complexus and states that the symptoms alone will enable us to make a diagnosis between diphtheritic anginas and the non infectious forms with approximate certainty and sufficient promptness, but the bacterial diagnosis forms a valuable supplement, which should not be neglected In the great majority of cases of supposed infective anginas, the positive proof of the presence of the diphtheria bacillus turns the scale in favor of the diagnosis of diphtheria Where the bacteriologic tests yield no evidence of the presence of the characteristic bacillus, but only of pseudo-diphtheritic forms, streptococci, etc, the disease, according to FURST, is still to be regarded as diphtheria and is to be treated accordingly, provided the clinical symptoms call for such treatment On the other hand, even though the diphtheria bacilli be found, the diagnosis is not to be regarded as conclusive, unless the usual local appearances and general symptoms warrant it As physicians can not be expected to provide themselves with bacteriologic laboratories at their own expense, the duty of making the clinical diagnosis is imperative, but it is deemed also necessary that public institutions of this kind shall be established by the health authorities in all large centers of population, in order to positively determine the character of the infection in doubtful cases of diphtheria

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[1] Berliner Klinik Sammlung Klinische Vorträge, Marz, 1895

As regards treatment, serum therapy now has the floor The duty of the attending physician is stated —rather dogmatically it may be thought in view of the unsettled questions still remaining to be solved with reference to the so called antitoxin—as follows the physician, in cases of suspected character, or supposed diphtheritic angina, should at once proceed to apply local treatment and administer serum injections, while adopting prophylactic measures, isolation, etc , without waiting for the report of the bacteriologic examination Should the examination yield a negative result, the injections possibly being unnecessary, **Furst** regards this as only an insignificant evil in comparison with the very decided risk which had been set aside by the early treatment He strongly urges that in all convalescing cases of diphtheria, attendants, children of the family, school companions and others, in short, wherever there is a possibility of the spreading of the bacillus diphtheriticus, that the throats should be subjected to the same bacteriologic examination, even when they present no symptoms of disease All of those who have been exposed to infection should, without exception, be immunized

This may be regarded as a summary presentation of the most advanced treatment of to day That it will be still regarded as sound doctrine ten, or even five years from now, very few will be bold enough to affirm The argument from analogy and experience with other new remedies, would rather favor the view that the serum-therapy of diphtheria is still destined to undergo important modifications before it can be regarded as permanently established, unless, indeed, our health authorities shall take the unprecedented step of imposing, by legal enactment, this special method of treatment upon medical practitioners of all kinds, including the several restricted schools of practice—a step which they are not likely to take, or, at least, not very soon

This subject has been under discussion at various society meetings during the past year, and it was a special feature of the session of the Association of American Physicians at Washington **Dr W H Welch** very accurately summed up the situation in his statement that "The decision as to the efficiency of the diphtheria antitoxin is in the hands of the clinician and not of the pathologist " The clinician, however, was ably represented by **Dr Jacobi**, who declared himself to be a practical man, desirous of saving his patients and advised that the local and systemic measures which experience has proved to be useful should not be laid aside while also resorting to serum-therapy, in cases where it seems likely that it may be beneficial This advice is sound and the course of proceeding prudent, following both the letter and the spirit of the injunction to "prove all things and hold fast to that which is good "

THE ASSOCIATION AND ITS JOURNAL ABROAD

In his appreciative, genial and always interesting gossip of the month **Malcolm Morris**, editor of *The Practitioner*, takes occasion in the current mensual to say some very pleasant things about the AMERICAN MEDICAL ASSOCIATION and its JOURNAL, which it will, no doubt, gratify the members of the one and the readers of the other to see reproduced

While it is pointed out that our ASSOCIATION is a much smaller, and less wealthy body than the British organization, **Mr Morris**, basing his judgment on the reports of the recent Baltimore meeting, holds that the scientific work which it does is no whit inferior in quality and but little inferior in quantity to that of its cis-Atlantic homologue "The general level of the communications was high, but I was particularly struck by the importance of those dealing with surgical and gynecologic subjects " Particularizing as to these he cites the Address on Surgery by **Dr C A Wheaton** of Minnesota, who "raised a voice of warning against what the late **Professor Verneuil** called the *furor secandi*, which has sometimes given the enemies of medical science cause to blaspheme and which is looked upon with disfavor by the more conservative spirits among hospital surgeons **Dr Wheaton** said that a retrospective examination of surgical literature since the introduction of anesthesia 'does much to make the thinking student wonder whether the longevity of the human family has been conserved or its physical welfare materially enhanced by modern surgery ' Has not, he asked, our feeling of safety engendered by our acknowledged perfection in surgical detail opened a wide field of surgical speculation and experiment that serves rather to enrich the surgeon (the orator refers, I presume, to intellectual enrichment) than to minimize disease and prolong life? **Dr Wheaton**, however, spoke with enthusiastic appreciation of the achievements of a score of brilliant men, whose work had been instrumental in placing surgery in its present advanced position "

Mr Morris does not agree with the orator as to the decline of the "family physician"—at least in England, where he says there is no such decline "Some years ago it was predicted that the general physician would in time be forced out of existence by the inevitable development of specialism, but I find it simply impossible to conceive of an evolution of the medical profession which would cause the family doctor to disappear He is the foundation on which the whole superstructure rests Perhaps, however, by the words 'family physician' Dr Wheaton means the general physician as distinct from the specialist," which is, of course, precisely what Dr Wheaton did mean

In the Section on Diseases of Children, Mr Morris thinks one of the most interesting papers was that read by Dr Louis Fischer, of New York, on "Antitoxin in Diphtheria" "He has probably tried the remedy more extensively than any other physician in the United States, and he said that while, before the introduction of antitoxin, his mortality, as nearly as he could estimate, was about 55 per cent, the proportion of deaths in over two hundred cases reported by him in April last, in which the antitoxin had been used, was about 15 per cent He declared he would not treat diphtheria without the antitoxin any more than he would treat intermittent fever without quinin or syphilis without mercury"

We do not look aside to see whose heads the following charge may strike "Too many American medical journals are, on the face of them, mere advertising media, evidently conducted on the principle that all is grist that comes to the mill" It is of more interest to us to note that Mr Morris has learned that the "American Medical Association is taking the lead in a movement for reform in this particular, and has shown an excellent example as regards the management of its own journal, as may be gathered from the following passage in the report of the Trustees"—the passage being that relating to the character of advertisements which is quoted in full, and the fact noted that "the report was unanimously adopted" Can it be that Mr Morris had in mind any other association and its journal which might participate in "a movement for reform in this particular," even if it would now have to follow an American 'lead?'"

MAY A PHYSICIAN PREPARE HIS OWN DEATH CERTIFICATE?

The above question is propounded and answered by the editor of the *Medical Press and Circular*, June 12, although the phraseology of the question is somewhat different His question reads "Can a Medical Man sign his [illegible]n Certificate of Death?" The following is his answer

"This question seems a somewhat paradoxical one, but everything depends upon when this particular duty is discharged The impossibility of the act could not be disputed should the medical man have joined the great majority, on the other hand, while life remains, it would not be a difficult matter for him to fill in and sign the familiar document, and record the means by which he expected to die A case of this description is said to have actually occurred a short time ago In an Italian town the death took place of the communal medical officer, one of whose duties consisted in visiting the dead in the public institutions, and in writing death certificates Among his papers was found his own death certificate, with the disease from which he suffered duly recorded, the certificate being complete in all particulars save the insertion of the date of his death When, therefore, the new medical officer appeared on the scene, all that was deemed to be necessary was to fill in the date, and the certificate was then regarded as valid This, it must be conceded, is something quite novel in the matter of death certificates Perhaps objection might be taken to it in a legal sense were the practice to be adopted in this country Nevertheless, in the case of a medical man suffering from an incurable malady which was destined to destroy his life, it could only be said that he was anticipating events were he to fill up and sign his own death certificate some time before his actual decease took place, leaving some one else to add the precise date of death"

This case of the Italian physician is one where the medical certifying officer lived in an isolated locality His certificate was, in point of fact, one of existing disease before death, not a certificate of death, and this certificate, if not countersigned by the new communal certifiant, would not be valid for any official purposes whatever The *causa mortis* was presumably well understood by the dying physician, the fact and date of death became well known to the new-coming officer These two or three data being brought together, a valid certificate is the result

THE NEW YORK QUARANTINE

Notwithstanding the fact that yellow fever has been unusually prevalent on the islands of the Spanish Main, necessitating stricter precautions at our ports of entry, the *Saratoga*, of the Ward Line Steamship Company, arrived in New York July 8 from Havana after a fast passage of a little more than three days.

No fact is clearer than that the extreme limit of the period of incubation of yellow fever is only reached at the end of the fifth day

Some of the passengers of the *Saratoga* had provided themselves with certificates from Dr Burgess at Havana, showing that they had been "acclimatized," that is to say, that they had had yellow fever, and therefore were not likely to transmit the disease, or to acquire it after landing Others, however, were not so fortunate, and the Health Officer, Dr Doty, very properly directed that those not provided with proper certificates, coming from an infected port, must either be removed to Hoffman's Island detention station, or remain in quarantine on board the ship The steamship company preferred the latter alternative, and although there has been much growling, sanitarians generally will sustain Dr Doty in his course

THE AMERICAN MEDICAL ASSOCIATION PRESS

It is with some satisfaction that we point to the illustration in colors accompanying Dr Sterne's article on "Toxicity as an Etiology of Nervous Diseases" This was printed on our own presses and is a handsome specimen of presswork The ASSOCIATION PRESS imprint will in years to come, we trust, stand for all that is excellent in mechanical work, and good in itself as well

CORRESPONDENCE

A Post-mortem Examination in a Case of Appendiceal Abscess

TECUMSEH MICH, July 13, 1895

To the Editor —Mrs B age about 54 years, was confined to her bed on the first of July of the present year The family sent for a homeopath who appears to have had not the slightest idea of the nature of her illness, but apparently satisfied the gullibility of the friends until the death of the patient, which occurred ten days from the commencement of the attack After death, the friends became anxious to know the cause and whether, or not, the patient died from neuralgia of the heart which was the cause assigned by this ignorant homeopath At the solicitation of the family, three physicians (including the writer), and two homeopaths attended the post mortem examination Upon opening the abdominal cavity there was found a ruptured appendiceal abscess which occurred a few hours before death, doubtless the rupture was produced by the attendant pressing upward upon the cervix of the uterus, in such a manner that the fundus came in contact with the abscess, in an effort made by him a few hours before the death of the patient to reduce an *imaginary* displacement

The point which the writer desires to make in bringing this case before the profession is the necessity of making an early diagnosis in appendicitis, and the absolute necessity of calling in a competent surgeon, upon whom shall fall the responsibility of operating or not operating

Very respectfully, J F JENKINS, M D

Treatment of Hernia Cerebri

CORONADO, CAL July 6, 1895

To the Editor —Moved by a very interesting and instructive paper, recently published in the JOURNAL, on brain surgery, in which Volkmann's treatment of fungus cerebri by the curette is mentioned, I wish to report a case successfully treated, in my first year of practice by a different process

In July, 1838, my father (University of Pennsylvania, 1809) was called several miles in the country to a child about 3 years old, who had been kicked by a horse, and I went with him We found a tumor over the left parietal, the child in deep stupor, and other indications of compression The knife was given to me and I made a crucial incision, brain and clots of arterial blood following the knife The dura was much torn and was trimmed after eleven pieces of bone were removed Fearing erysipelas few sutures were used and water dressings were applied

The case was left in my charge, and to our surprise and gratification the recovery was complete

A few weeks after I was called, and found a fungus cerebri, half the size of an egg, cut horizontally in two I proposed to excise it, but the mother objecting, I took an old tea caddy, hammered it so as to make a convex compress, and, after first covering the fungus with lint smeared with cerate, applied my lead compress, and over that a bandage This was removed and reapplied every day, and the result was complete absorption, and a most satisfactory cure, without any impairment of the intellect

I W TODD, M D

To Prevent Accidents

CHICAGO, July 12, 1895

To the Editor —I noticed that in several of the eastern cities it was the custom of the street car companies to have cable and electric cars stop before crossing the street It seems to me that this would be much safer for pedestrians and drivers than the plan followed here, and it would add much to the safety of bicycle riders

Yours truly, I

American Medical College Association

RIDGEWAY, S C, July 12, 1895

To the Editor —I want the list of names of all medical colleges belonging to the American Medical College Association Where can I get it and how much will it cost?

Respectfully, S S L

ANSWER —Apply to Dr Bayard Holmes, Secretary, 104 E 40th Street, Chicago, Ill

Dr Jas E Reeves

CHICAGO, July 11, 1895

To the Editor —Why don't you publish the address of Dr James E Reeves? I would be glad to send 50 cents for a copy of his report, if I knew his address D

ANSWER —The address is Chattanooga, Tenn

BOOK NOTICES

A Treatise on the Nervous Diseases of Children, for Physicians and Students By B SACHS, M D Cl, 8vo, pp 666 New York William Wood & Company 1895

American medical literature will soon rival the French in the extent and variety of its monographs, and works devoted to specialty subdivisions We should also add that the quality of American medical literature is constantly improving The book under consideration is well written and exhaustive It contains eleven chapters devoted to General Nervous Diseases, twelve to Organic Diseases of the Nervous System, eight chapters to Diseases of the Brain, an introduction and an appendix, a copious index concludes the work There are 162 illustrations The author's conservatism is well shown in the chapter on chorea, wherein he rejects the large doses of arsenic recommended by some, and takes issue with Erb regarding the use of electricity In regard to the question of school going the author says "A special caution is necessary as regards the question of attendance at school Every choreic child, however mild its attack may be, should be kept from school, both for its own sake and for the sake of the other pupils who might imitate the disease I have sometimes allowed myself to be persuaded to permit a child with a mild form of chorea to continue at school, in almost every instance I have had reason to regret it, for nothing is better calculated to bring out severe chorea than the competitive spirit that obtains in most schools Periods of examination are fraught with greatest danger to those children who have had attacks in early life The atmosphere of the school-room seems to have a depressing influence upon such children, and among the wealthier classes far better progress can be made in the ordinary studies if the child is instructed at home than if it is taught at school It is necessary for the physician to take a firm stand on this question, or else his treatment of the case will be thoroughly unsatisfactory"

The book is a valuable one, and worthy of praise

Remote Consequences of Injuries of the Nerves and Their Treatment An examination of the present condition of wounds received in 1863 65, with additional illustrative cases By John K Mitchell, M D, Assistant Physician to the Orthopedic Hospital and Infirmary for Nervous Diseases, Philadelphia, Lecturer on Physical Diagnosis in the University of Pennsylvania *In one handsome 12mo volume of 283 pages, with 12 illustrations* Cloth, $1 75 Philadelphia Lea Bros & Co

More than thirty years have elapsed since Acting Assistant Surgeons S Weir Mitchell, George R Morehouse and William W Keen made their special investigations on gunshot and other injuries of the nerves, in the temporary U S Army Hospital in Christian Street, Philadelphia The report which these gentlemen prepared in 1864 may be read now with all the interest which attaches to the recital of a traveler upon a new and hitherto unknown territory "Never before in medical history has there been collected for study and treatment so remarkable a series of nerve injuries," say the authors The opportunity was afforded by the setting apart of a hospital for diseases and injuries of the nerves, by order of Surgeon-General Hammond, and the report cited is now a medical classic

The book now under consideration, by the son of the senior medical officer mentioned, may be said to be the sequel to that report, since it is a pretty successful attempt to trace the history of many of the cases treated in the Christian Street and Turner's Lane Hospitals in 1863

The military surgeon and the neurologist have alike an interest in this class of cases, and we predict that the little book will meet with favorable reception The records of the Pension Office, which should long ago have been published as a whole, under proper editorial supervision, are here made use of with reference to this class of cases, with judgment and skill

Indigestion An Introduction of the Study of Diseases of the Stomach By George Herschell, M D Lond Second Edition 8vo, cl, pp 343 New York G P Putnam's Sons London Baillière, Tindall & Cox 1895

This book " does not profess to be a complete treatise upon all the disorders of the digestive apparatus, nor to exhaust the subject of diseases of the stomach " It is intended as an elementary manual for students and as such it very fairly meets the indications

The general nutrition of the body depending, as it does, upon the function of stomach and intestinal digestion, it follows that the pathologic processes of all tissues, are profoundly affected by the manner in which that function is performed The study of digestion, and its derangements or disturbances, must therefore be of interest to specialists as well as general practitioners desiring to bring their knowledge up to date Therefore too many fundamental works of this character can not be had, and the book of Dr Herschell is very welcome That it has already reached a second edition is a testimonial to the intrinsic merits of the work

The Art of Massage Its Physiologic Effects and Therapeutic Applications By J H Kellogg, M D, 8vo, cl, pp 282 Battle Creek, Mich Modern Medicine Publishing Co 1895

Massage properly applied is of interest to all divisions of medicine and surgery and in some is indispensable The author has in this volume well classified the different procedures employed by expert masseurs, and the work is well illustrated As a text-book for nurses' training schools we think it admirably serves the purpose Less elaborate than Graham it is still complete enough to furnish the necessary information, but perfection in massage can only be reached by a few No amount of drill can supply delicacy with strength to persons naturally deficient All, however, may be improved by study and practice The style of the book is such as to adapt it to recitations and reference rather than continuous reading We commend the book

Transactions of the New York State Medical Association for the year 1894 Volume xi Edited for the Association by E D Ferguson, M D 8vo, cl, pp 751

This large and handsomely printed volume contains the proceedings and papers read at the meeting of the Association held at New York City Oct 9 to 11, 1894, under the Presidency of Dr Charles D Strong, an account of which was printed in this Journal in due course

Memorial notices are inserted of Drs J B Andrews, M K Hogan, William Goran, N M Perry, W T White and John Young

Reports of the District Branches, and the annual report of the Council are included in the volume, which is printed in New Hampshire The widely distributed lecture of Dr H O Marcy on Hernia, adorns the volume, with its usual grace and perspicuity

The Association is flourishing, having upwards of 800 Fellows on the active list, and the papers in this volume are many of them of such merit as to permanently enrich medical literature

Transactions of the Medical Association of Central New York Buffalo Buffalo Medical and Surgical Journal print 1895

This brochure contains the papers and proceedings of the twenty-seventh annual meeting of the Medical Association of Central New York, held in Buffalo, Oct 16, 1894, under the Presidency of Henry L Elsner, M D

The fortunate subscribers of our contemporary, the *Buffalo Medical and Surgical Journal*, have had the opportunity of reading these papers Others will be instructed and entertained by reading the little volume, which contains sixteen excellent papers

Transactions of the Southern Surgical and Gynecological Association Vol vii Published by the Association 1895

This elegant volume of 336 pages comprises the proceedings and papers of the seventh session, held at Charleston, S C, Nov 13, 14 and 15, 1894, under the presidency of Cornelius Kollock, M D We printed in our issue of Dec 15, 1894, a full abstract of the papers read at the meeting The biography of Warren Stone by the late A B Miles, and the sketch of Marion Sims by Edward Souchon can not fail to be read and re read with interest

SOCIETY NEWS

Third International Congress of Physiologists —Bern, Sept 9 to 13, 1895 —At its opening session on Sept 10, 1889, the first International Congress of Physiologists adopted the following resolutions

1 An International Congress of Physiologists shall be held triennially, with the object of contributing to the advancement of physiology by affording physiologists of various nationalities an opportunity of personally bringing forward experiments, and of exchanging and discussing their views together, and of becoming personally acquainted one with another

2 Membership of the Congress shall be open to all professors and teachers of biologic science, belonging to a medical faculty or any other similar scientific body, as well as to all scientific men engaged in biologic research

3 The sessions of the Congress shall be devoted to physiologic communications and demonstrations Further, communications relating to original research in anatomy, general pathology, and pharmacology, are acceptable in so far as they present features of general biologic interest

4 It is desirable to keep the communications as far as possible demonstrable and experimental in character

5 No official report of the work of the Congress shall be published

The following regulations were discussed and adopted for conducting business at the sessions of the Congress

1 The languages recognized as official at the Congress are English, French and German

2 At each sitting, two presidents for the next sitting are chosen by the meeting on the proposal of the chairman

3 At the opening of the Congress, the meeting elects for each of the official languages, a general secretary, who shall superintend the preparation of the minutes of the meetings

4 The minutes are written in the three official languages by three Secretaries chosen at each sitting, by the President in the chair Each person who makes a communication shall sign the protocol of his own communication The President in the chair shall confirm the correctness of the minutes for the whole sitting

5 The length of a communication may not exceed fifteen minutes When that period has been exceeded the President must ask the meeting whether it desires the communication to continue farther

6 A motion backed by three members for the closure of a communication or of a discussion, must be immediately put to the vote

7 The press shall not be officially admitted to the Congress, each member is free to send private communications to scientific journals

On Sept 12, 1889, the first International Congress of Physiologists passed the following resolutions

1 The signal success of the Congress shows the appropriateness of its inception and the desirability of continuing its meetings

2 The second International Congress of Physiologists shall be held in the year 1892 in Belgium or in Switzerland, and, if possible, in a town in which the community employs the French language

Accordingly in August, 1892, the second International Congress of Physiologists was held at the Liége in the Laboratory of Professor Fredericq, and, as before, official meetings were held for three successive days and were devoted chiefly to demonstrations and experiments

The second Congress, which met at Liége, resolved on the recommendation of its Executive Committee that the third International Congress of Physiologists be held in September, 1895 from the 10th to the 14th of the month, at Bern, Switzerland Professor Kronecker, Director of the Physiologic Institute of the University of Bern has kindly expressed his readiness to afford to members of the Congress all facilities for demonstration and experiment, as well as for the exhibition of scientific apparatus It is particularly desirable that those intending to avail themselves of Professor Kronecker's assistance should let him know what their requirements are not later than June 30

In connection with the Congress an exhibition of physiologic apparatus will be held Exhibits may be contributed by all members of the Congress, by the directors of physiologic laboratories, and by makers recommended by any member of the Congress, or by the director of a physiologic laboratory The exhibition of apparatus will open two days before the Congress, and will close two days after the Congress

I desire hereby, on behalf of the Executive Committee, to invite you to attend the third Congress, September 9 to 13 of this year, at Bern Should you intend to be present, kindly notify your acceptance, and, if possible, the title of your communication, either to Professor Hugo Kronecker, Bern or to myself, before August 1

Each member of the Congress is required to contribute the sum of 10 francs toward defraying the expenses of the meetings, he will obtain in receipt from the President, Professor Kronecker, a card of membership of the Congress

Titles of communications may be sent to Frederic S Lee, Secretary of the American Physiological Society, Columbia College, New York City

I am, dear Sir, yours truly,
C S Sherrington,
General Secretary for the English Language,
On behalf of the Executive Committee
27, St George's Square, S W, London

NECROLOGY

E R Palmer, M D The sudden death of this eminent physician and surgeon, which occurred on the night of the 6th inst at the Norton Infirmary, Louisville, Ky, produced a profound sensation of sorrow, not only in that city, his home from early boyhood, but throughout the whole land wherever his name and reputation were known While returning from a pleasure ride on his bicycle on the night in question, when crossing the railroad tracks at their intersection with the boulevard, the Doctor lost control of his wheel, which ran against the curbing and caused him to fall to the pavement His head struck the curbing when he fell and the skull was fractured He was removed in an ambulance to the Norton Infirmary, but died just after midnight, about two hours after the accident occurred without recovering consciousness, although nearly a score of his fellow-practitioners were at his bedside, busily and anxiously engaged in using their best efforts to save the life of their friend and co-worker Dr Edward R Palmer had lived in Louisville since he was 6 years old He was born in Woodstock, Vt, Nov 18, 1842 His father was Prof Benjamin R Palmer, who was a leading physician in Vermont, and moved to Louisville in 1848 He accepted the chair of surgery in the Medical Department of the University of Louisville Dr Palmer graduated from the University Medical College in 1861, during the war He immediately became assistant surgeon in the U S Army and was assigned to hospital duty in Louisville He also served in the same capacity at Lebanon, Ky At the close of the war he located in his father's office in Louisville, which he was occupying at the time of his death His father died in 1865

Dr Palmer was extremely successful in his practice, which at that time was that of a regular practitioner He continued in this manner until ten years ago, when he began as a specialist in genito urinary troubles His career as a physician was unusually brilliant He was called to the chair of physiology in the medical department of the University of Louisville in 1868, just before his marriage Since then, Dr Palmer has occupied the chair without interruption, and was noted for his splendid lectures He was also clinical teacher of diseases of the chest and of genito-urinary diseases In 1893 he was elected President of the Association of Genito-Urinary Surgeons of which he was a member at the time of his death He was also one of the promoters and members of the Surgical Society of Louisville, and a member of the Louisville Academy of Medicine, Medico-Chirurgical Society, Kentucky State Medical Society, American Medical Association, and a Fellow of the College of Physicians and Surgeons of Louisville

The Doctor was a brilliant and forcible writer, and his contributions to the medical and surgical journals were always interesting and instructive He was enthusiastic in everything he undertook He was a prominent club man and was welcomed everywhere for his genial temperament He had a reputation for after dinner speeches and brilliant conversation—moreover, he was a good singer, and his rendering of such selections as "My Old Kentucky Home" has charmed many brilliant companies around the festal board

Dr Palmer leaves a widow and three grown children—a daughter and two sons The latter, Edward R Palmer Jr and J B Palmer, were recently graduated from Princeton University and are now attending the medical department, University of Louisville, from which they will graduate next March

Dr Palmer's funeral took place from Christ Church Cathedral on the 8th inst, and was one of the largest that ever occurred in the city The principal physicians and surgeons of the city were in attendance, a large number of whom served as active and honorary pall-bearers Many of the professional brethren of the deceased from neighboring cities were also in attendance

Fidelio B Gillette, M D, formerly of Brooklyn, died July 1, at De Ruyter, N Y, in his sixty-first year, from an attack of renal disease He was an alumnus of the University of Pennsylvania, class of 1856 He was a resident of Brooklyn for over twenty years, and early joined the county medical society He was a member of the Physicians' Mutual Aid Society He was a gentleman of refinement and those generous traits of character that naturally and readily tend to popularity Interment took place at Shiloh, N J

Paul J Taylor, M D, of Hoboken, N J, died July 6 He was taken seriously ill while at the bedside of a patient He became comatose soon after being taken to his home and did not rally His death is attributed to cardiac disease He was a graduate of the University of New York in the class of 1870 He was city physician of Hoboken from 1880 to 1887, for fourteen years examining physician of the Metropolitan Life Insurance Company, and was the medical examiner for several fraternal benefit societies He was a member of a large number of social organizations and an influential officer in several A widow and four children survive him He was 58 years of age

Gerrard George Tyrrell, M D , of Sacramento, Cal , died June 8, 1895, aged 64 He was born at Dalkey, Dublin County, Ireland, in 1831, and was graduated from the Royal College of Surgeons, Ireland, in 1856, and from King's and Queen's College of Physicians in 1859, after graduation he came to the United States and established himself in practice in Milwaukee, Wis , where he remained until 1861, at which time he moved to Grass Valley, Nev , and in 1868 to Sacramento He was an old and honored member of the American Medical Association

PUBLIC HEALTH

Limited School Quarantine for Infectious Diseases —The following scale of school detention of scholars and teachers has been adopted by the Pennsylvania State Board of Health The recommended time of quarantine, for persons who have been exposed to the infective diseases, after which those persons may safely be admitted again to schools, if they continue in good health and have taken proper measures for disinfection for diphtheria after twelve days, smallpox eighteen , measles, eighteen , chickenpox, eighteen , mumps twenty-four , whooping-cough, twenty-one Adults may be admitted at once, if they disinfect their clothes and persons

Death Rates of European Cities in 1894 —Following are the death rates per 1000 of the principal European cities for the year 1894 Bristol 15 4, Frankford-on-Main 16 5, Berlin 17 2, London 17 7, Leeds 17 8, Brussels 18 1 Hamburg, 18 1, Amsterdam 18 3, Birmingham 18 5, Leipzig 18 7, Copenhagen 18 7, Turin 18 8, Zurich 18 9, Genoa, 19 0, Stockholm 19 4, Rome 19 6, Christiana 19 6, Nice 19 7, Glasgow 20 0, Paris 20 2, Rotterdam 20 2, Manchester 20 4, Lyons 20 9, Dresden 20 5, Berne 21 0, Venice 21 6, Bordeaux 21 9, Bologna 21 9, Prague 22 1, Vienna 22 8, Cologne 23 1, Munich 23 7, Liverpool 23 8, Budapesth 24 4, Dublin 24 7, Milan 25 0, Naples 27 7, Marseilles 28 3, Barcelona 29 6, Havre 29 8, Bucharest 29 9, Trieste 30 1, Rouen 31 3, St Petersburg 31 4, Moscow 34 1[1]

Nature's Compensations —Vital statisticians have frequently commented upon the fact that after a period of devastating wars the birth rate runs high, that after an epidemic the death rate falls Whatever the principle involved it is obviously operating in Milwaukee this year One of its local journals of the 9th inst , says "This morning there were only two cases of contagious diseases in the city and these were cases of scarlet fever Last Saturday the weekly report gave the number of scarlet fever and diphtheria cases in the city as eight each To-day diphtheria is wiped out, smallpox has given no signs of revival and scarlet fever dropped down to two cases Never in ten years past has this record been equalled or even approached and the members of the Health Department feel correspondingly pleased "

Did Not Blame the Americans —Two severe outbreaks of ptomaine poisoning have recently occurred in Great Britain—in one of which all the members of two families, numbering twenty-two persons became seriously ill after eating "tinned" meat and one died, in the other, a man purchased some veal on a Saturday and, having shared it with two other families, all partook of it on the Sunday, and the following morning nearly a dozen persons who had eaten of the veal were attacked with violent purging, vomiting, etc , and one also died The singular feature, common to both these outbreaks, is that in none of the accounts which have come under observation has there been any charge that the sickness and death were due to the poisonous meats which, it is well known Americans are in the habit of putting up for export to the unsuspecting foreigner

Preventing a Stench Nuisance —The Conseil d'Hygiene of Paris has suggested to the municipality that all butchers in that city be required to prevent the nuisance arising from the putrefactive decomposition of bones, fat, meat trimmings and other *debris* accumulating about their shops and premises At the request of the Conseil, M Nocard has recommended a disinfectant for this purpose, which is at once cheap, easily applied, free from danger, effective and does not destroy the value of the *debris* for industrial purposes This consists of a 2 per cent zinc chlorid solution to be used in the following manner the butcher will provide a large wooden vat of 120 liters (30 gals) capacity, in which will be mixed 2 liters of zinc chlorid solution at 40 degrees, with 100 liters of water , the scraps, bones, etc , will be thrown into this vat and kept there until removed A sufficient quantity of the 2 per cent solution must be added from time to time to maintain the strength necessary for disinfection and exhausted by use

Errors of Diagnosis in Infectious Diseases —In *Public Health* for July we find a brief analysis of cases of the above nature, in the last Annual Report of the Metropolitan Asylums Board of Greater London This monster organization has under its control accommodations for 12,000 patients, and carries an average population of not less than 9,000 a day In this figure are included the " imbecile" as well as infectious classes The number of admissions to the infectious disease hospitals was nearly 17,000 in 1894 , of scarlet fever alone there were 11,596 admissions These figures are quoted solely to show the enormous volume of business conducted by the Board Concerning the question of errors in diagnosis, the analysis in *Public Health* remarks

" In the course of 1894 no fewer than 864 patients, or a percentage on the total admissions of 5 2, were, after admission at the fever hospitals of the Metropolitan Asylums Board, found not to be suffering from the diseases mentioned in the medical certificates upon which they were removed to hospital The largest number of cases of mistaken diagnosis admitted at any one hospital was, as in previous years, at the Eastern Hospital, where 258, or 9 8 per cent , were received Of the patients admitted to the hospital ships, 24 were not suffering from smallpox at the time of admission Of this number four were mothers admitted with their infants , nine were infants admitted with their mothers , one had no symptom of disease at the time of admission, but was sent to hospital as convalescing from smallpox , and ten suffered from other diseases, a list of which is given in the report of the medical superintendent From these figures it appears that the actual number of mistakes in diagnosis among the patients admitted to hospital was 10, or only 0 8 per cent If, however, we consider the total number of cases certified as smallpox, and removed to the wharves and medically examined there, we find that of 1,263 cases 155, or 12 2 per cent , were in the opinion of the managers' medical officers not suffering from smallpox, and were returned to their homes, with the exception of four, who were transferred to fever hospitals It would be interesting to hear the other side of these cases Did any of these patients, after being returned home prove to have the diseases originally notified? Do mistakes in diagnosis occur only on the part of private medical practitioners? There is a general consensus of opinion in large towns that isolation accommodation for doubtful cases form an indispensable part of the administrative machinery of fever and smallpox hospitals , but this is almost entirely wanting in the metropolis "

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[2] Rev Int Med et Chir, Prat , No 11, 1895

Cause of Cancer—Dr James Braithwaite of Leeds, Eng, editor of the *Retrospect of Medicine*, does not positively assert, but he confidently believes, that he has discovered the cause of cancer and sarcoma in a spore bearing mycelium which he has succeeded in fully demonstrating to his own satisfaction and which he illustrates in a descriptive paper[1] So well satisfied is he of the correctness of his conclusions that he leaves to others their disproof, and proceeds to discuss the question, Is any practical result likely to accrue from this discovery? So far as he can see at present the answers may be given as follows 1, the cure of a cancerous growth actually in existence does not seem more probable [by reason of this discovery] but less probable, because the enemy is so subtle, so penetrating, and so indestructible—proved by immersion in liquor potassa for an hour without killing it—that it almost seems impossible to eradicate it, it is, however, better to have an enemy exposed to view than one invisible But it seems likely that, after removal of a growth by operation, it would be better not to close the wound absolutely, but to keep the surface in contact with dressings soaked in glycerin containing liquified carbolic acid and also perchlorid of mercury—the carbolic acid partly to relieve the pain, glycerin penetrates the tissues and carries with it any substance in solution 2, it seems not improbable that cancer of the breast in women past the child bearing period may be altogether prevented by closing the orifices of the milk-ducts in the nipple by a small surgical operation or by the use of a fine electric cautery, for the fungus must enter the breast *via* the milk duct orifices 3, it is possible that men may have to return to a certain Mosaic rite in order to save wives from uterine cancer, unless the daily use of soap will do away with this necessity 4, in order to prevent the fearful mortality from cancer in low-lying, wet-soil districts the bodies of persons dying from cancer must be buried at a great depth or they must be cremated Moisture is absolutely necessary for the formation of zygospores spore masses and spore bearing mycelium It does not seem probable that the fungus necessarily spends part of its life in the earth but no doubt when the interment is at no great depth the earth will become infiltrated if it is constantly wet and floods will carry the spore masses all over the country 5, a fungus can attack only effete tissues We are, ourselves only tools of nature, we must not rust from luxury and idleness Business men must be careful how they retire—for, just as tuberculosis is favored by excessive work and poor food, so the growth of a fungus is likely to be favored by the effete material present in the system and engendered by opposite conditions

Prophylaxis of Consumption.—The researches of Professor Cornet into the mode of propagation and the life history of the tubercle bacillus and the methods of prophylaxis based thereon which he suggested have profoundly influenced the restriction of tuberculosis all over the world As is so frequently the case many of his disciples, with more zeal than discretion, have carried prophylactic measures to extremes and have advocated wholly unnecessary precautions and restrictions In a paper recently read before the Berlin Medical Society[1]—the gist of which was the results obtained in the Prussian prisons by caring for the sputum—Cornet makes it clear how comparatively simple are the means necessary to limit the spread of consumption He pointed out that microörganisms with a moist surface could not be detached by a stream of air passing over them, and exploded the idea that the breath was the source of infection in pulmonary tuberculosis, making clear at the same time that this source must be looked for in the excretions from the patient He proved that the bacillus showed its earliest and widest development at its point of entrance into the organism or in the corresponding lymph glands, and that in man the lungs and bronchial glands formed this point in the large majority of cases He looked upon the sputum and especially dried sputum, as almost the sole cause of the extension of pulmonary tuberculosis, and was confirmed in the conclusion that by preventing the sputum from drying and becoming dust, an efficient prophylaxis of tuberculosis was possible Precautionary measures in this direction have been in force for the last few years in Germany, and especially in Prussia, where the authorities have interested themselves in the question Cornet gives statistics showing the mortality from tuberculosis in the prisons in Prussia and Bavaria The figures in both countries show much the same proportion from 1881 to 1887 Since 1887 the rate in Prussian prisons has fallen very rapidly and in the period 1892-94 was only 81 2 per 10 000 inmates—hardly one half the former figure These prophylactic measures are not however, generally adopted, and in Bavaria the view of Bollinger—that predisposition is a potent factor in tuberculosis—has interfered considerably with their adoption Cornet's ideas have lately made progress, and now the figures, which have remained stationary up to 1891, have begun to show a reduction Similar results are obtained from asylums a fall from 184 to 150—i e about one sixth—is seen in Prussia while no reduction takes place in Bavaria The statistics of the Catholic nursing orders of Prussia are very interesting In these, the disposal of the sputum has been attended to with great care and in consequence, during the last six years, a decided improvement is shown, while in 1887 the rate stood at 100 in 10 000 in 1893-94 it had sunk to 67 Going into larger figures, Cornet quotes those issued by the Royal Statistical Bureau of Prussia From the year 1875, when reliable information was first obtained to 1887, the death rate from tuberculosis averaged 31 in 10,000 inhabitants Since the latter year it has sunk from year to year to 25 in 1893 Stated generally, there were in Prussia alone between the years 1887 and 1893, 70 000 fewer deaths from tuberculosis than were expected from the average of previous years A similar disease has been noticed in Hamburg, where precautionary measures have been instituted and a comparison made with towns which have not adopted them shows that in the latter little or no decrease in the mortality from tuberculosis has occurred

Health Reports—The following health reports have been received by the Supervising Surgeon General, Marine-Hospital Service

SMALLPOX—UNITED STATES

Michigan	Smallpox reported July 6 at Battle Creek, Danby Township, Detroit, Olivet and Warren
Ohio	Cincinnati, July 5 to 12, 1 death, Cleveland, June 1 to 30, 1 case, 1 death
Wisconsin	Milwaukee, June 1 to 30, 2 deaths
Tennessee	Memphis, July 7 to 13, 2 cases
Louisiana	New Orleans, June 8 to 29, 6 cases, 7 deaths
Pennsylvania	Philadelphia, June 30 to July 6, 1 death
Missouri	St Louis, June 1 to 30, 2 deaths

SMALLPOX—FOREIGN

London	June 22 to 29, 25 cases, 1 death
Dublin	June 22 to 29, 18 cases
Antwerp	15 to 22, 1 death
Batoum	June 18 to 25 5 cases, 3 deaths
Birmingham	June 22 to 29, 1 case
Calcutta	May 28 to June 1, 34 deaths
Gibraltar	June 16 to 23, 1 case
Hiogo	June 1 to 8, 1 case
Hong Kong	May 25 to June 1, 1 death
Liverpool	June 22 to 29, 1 case
Manchester,	June 22 to 29, 1 case
Montevideo	June 1 to 8, 1 case, 1 death
Moscow	June 15 to 22, 2 cases 1 death
Naples	June 15 to 22, 2 cases, 2 deaths
Odessa	June 15 to 22, 3 cases, 1 death
Rio de Janeiro	June 8 to 15, 9 deaths
Rotterdam	June 22 to 29 1 case, 1 death
Warsaw	May 26 to June 2, 2 deaths, June 8 to 15, 1 death

CHOLERA

Bombay	May 28 to June 4, 1 death
Calcutta	May 25 to June 1, 45 deaths
Hiogo	June 1 to 8, 6 cases, 5 deaths

YELLOW FEVER

Santiago de Cuba	June 30 to July 6, 25 deaths
Vera Cruz	June 27 to July 4, 9 deaths

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[1] The Lancet, June 29 1895.

[1] Berl Klin Wochenschrift May 20, 1895 The Practitioner, July, 1895

MISCELLANY

Change of Address —Dr W Xavier Sudduth, from Minneapolis, Minn , to 100 State Street, Chicago

Was this "Writ Sarkastik?"—We find the following in the 'Literary Notes" of our esteemed contemporary and name sake, the *British Medical Journal* of June 29 "*Medicine* is the name of a new monthly journal of medicine and surgery published at Detroit under the editorship of Dr Harold N Mozer Our new contemporary presents a very creditable appearance, and to judge from the first three numbers it will be a valuable addition to medical journalism We congratulate both the editor and the publisher (Geo S Davis, whose name is favorably known in connection with the Index Medicus), on the fact that the trail of the advertiser is not over their journal as it is over so many trans-Atlantic periodicals" The *Journal* is itself so immaculately free from the "trail of the advertiser" that our colleague will, no doubt, appreciate the "congratulations" not less highly than the change made in the orthography of his patronymic

Origin of Syphilis —At the beginning of the sixteenth century it was claimed on the authority of Roderigo Diaz and Oviedo that syphilis was a disease imported from America by the companions of Columbus This theory held undisputed sway until near the close of the last century and it is still held by many physicians It was about 1493 that the disease first came to be spoken of and it was natural to attribute it to the most marked contemporary event—the discovery of America It would seem very astonishing, however, that it should suddenly have such a great extension over Europe if it had not existed there before Puschmann has collected evidence which proves to him that the disease existed in Europe during the Middle Ages and even in antiquity The disease remained unknown, however, until about the time of Columbus' discovery when it caused serious epidemics which attracted attention to it The American origin was rendered all the more probable because the guaiac wood, then used in its treatment, came from America It seems probable, nevertheless, that it existed before in several lands—especially among the negroes and the Moors driven from Spain [1]

Diagnosis of Serous Effusions by Acetic Acid —It is sometimes a very delicate task to determine in cases of serous effusion whether we have to deal with an inflammatory exudate, as in pleurisy or peritonitis, or a simple transudation, as in hydrothorax and mechanical ascites Primavera has facilitated this research by showing that acetic acid precipitates the paraglobulin held in suspension in inflammatory exudates Rivolta points out a practical means of using this test for differentiation Two successive examinations are made, controlling each other In a small quantity of fluid, attained by puncture and filtered, is placed a drop of slightly diluted acetic acid , in the case of an exudate a slight white precipitate is immediately formed, which follows the drop as it falls to the bottom , in the case of a transudate the liquid is colored throughout 2, in a test tube are placed 200 to 300 c c of distilled water to which has been added one drop of glacial acetic acid to each 100 c c of water , a drop of the liquid to be examined is allowed to fall into the tube, when, in case of an exudate, it will form a whitish-blue flocculent precipitate which falls to the bottom If some more drops of acetic acid be added this precipitate completely disappears This test must always be carried out to exclude a precipitate of insoluble mucin [2]

Disinfection of Wells —Wells are frequently infected, especially when the country has been inundated As they are often situated close to dung hills the drainage of the latter often becomes mixed with the well water, forming a culture medium for microbes It will be some months before the well furnishes pure water again—that which trickles from the walls being contaminated from the deposits left on the surface of the bricks and between them Frank has recently recommended the following procedure which he employs on the banks of the Rhine A plate, containing 50 to 100 grains of bromin, is suspended in the mouth of the well , as is known, bromin is volatilized in air, and its vapors are heavier than the latter, hence there is formed a cloud of vapor which falls slowly into the well, skirting the surface, penetrating into crevices and completely destroying organic matters At the bottom of the well the bromin is dissolved and, being heavier than water, the mass of liquid is completely penetrated by the disinfecting agent , the water retains a slight taste of bromin for some time, which is not very agreeable, but it is purified and made perfectly healthy [1]

The Index Medicus —The following paragraph, quoted from the London *Lancet*, for June 29, shows that there are in England medical workers who duly appreciate the Index Medicus There are endowed medical organizations in that country that could legitimately and "without feeling it,"—as the saying is—contribute to the $2,000 subscription suggested by Librarian MacAlister

"In another column will be found a letter from the Resident Librarian of the Royal Medical and Chirurgical Society concerning the imminent decease of that invaluable publication, the Index Medicus When it is remembered that this work is a carefully classified index of the whole of medical literature, not only books but pamphlets and original articles in the medical journals, and that on a reference to it any articles which have been written on medical subjects can be easily found, it will be seen that the cessation of this work would be an incalculable loss Our correspondent's suggestion that £400 a year should be subscribed by this country is well worth the consideration of the profession and the medical societies, and as such we commend it to them"

"To all who have profited by the wealth of information in the Index Medicus, the news that its publisher, George S Davis, has felt obliged to discontinue its publication will be read with regret It seems that since 1885 the annual loss which has been borne by Mr Davis has been from $500 to $1000, and that this year it bade fair to reach $2000, and no one can blame him for discontinuing his philanthropy An endeavor was made by his friends to raise the number of subscriptions to a paying basis, but unfortunately was unsuccessful The JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION states, however, that if its subscription list could be placed at twelve thousand that publication could and would carry on the Index with profit, and it is to be hoped this may be done No one who has used the Index can fail to appreciate its value"—*The Atlantic Medical Weekly*, July 13, 1895

Transmission of Tubercle Bacilli —At the *Société de Biologie* of Paris at its session of June 29, 1895, MM Bar and Rénon reported that they had undertaken the elucidation of the question of the direct transmissibility of the tubercle bacillus of Koch, through the placenta, to a human fetus In five cases they took at the moment of birth of the child a certain quantity of blood from the umbilical vein, and injected it under the skin of abdomen of guinea pigs In three cases the results were negative, and the guinea pigs did not become tuberculous, but in the remaining two, results were positive In the first case the mother was in the third stage of phthisis, the sputa contained the bacilli The placenta in this case presented no apparent lesions The blood from the umbilical vein was injected into a guinea pig, which showed a chancrous ulcer at point of inoculation, and died two months later, with tuberculosis of the liver and spleen The spleen pulp and the caseous masses of the chancrous ulcer contained the bacillus The autopsy of the stillborn infant was practiced immediately after its expulsion, the result was negative, but the injection of three guinea pigs with the juice of the pulp of the lung and liver, and peritoneal serum, caused the death of two In the second case the mother had pulmonary cavities, but examination of the sputa was not made The child born living, died on the fortieth day with broncho pneumonia The placenta appeared to be normal At the moment of the birth of the child, blood from the umbilical vein was injected into two guinea pigs, one of the pigs survived but the other died with a chancre of inoculation and generalized tuberculosis The careful technique of the authors make the results obtained by them all the more certain, and when corroborated by other observers no doubt may be left on this subject

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[1] Bulletin Medical, No 47, 1895

[2] Bulletin Medical, No 47, 1895

[1] Le Province Medicale, No 25, 1895

Will of the late Manufacturing Pharmacist, S M Burroughs —The late Silas Mainville Burroughs former head of the young but famous house of Burroughs & Wellcome of London has left a considerable property, a part of which is in this country In New York City, on July 12 "application was made to Surrogate Arnold for ancillary letters of administration upon the estate of Mr Burroughs, a celebrated chemist who lived in London The estimated value of the estate is £125,926, of which a small portion is in this country Mr Burroughs made bequests to Stanley, the African explorer, Henry George, and the Presbyterian church in Medina N Y"

Nearly Two Million Patients in 1893 —The following is a kind of half protest, in an English journal, concerning the misuse of hospitals in London 'The dependence of Londoners on their hospitals is very strikingly shown by the fact that out of a population of 4,306 411, the population of the administrative County of London in 1893, no less than 1,717 187 received aid from them In other words one out of every two men went to the hospital for relief, one woman in every three, and nearly one child in every two Ought this to be? In towns in the north they seem to help themselves a good deal more This is a form of eleemosynary aid which carries no stigma with it, and to which many resort who surely ought to be above doing so Or is this one of the features of city life to which we must submit as inevitable?"

The Overclothing of Children in Summer —The following taken from the *Archives of Gynecology and Pediatrics*, is seasonable

"Much misery would be avoided if mothers and nurses could be made to realize that in hot summer weather children are far more likely to suffer from heat than from taking cold' There is one source of cruel suffering and dangerous or even fatal illness in very hot weather which is often overlooked, because it is unsuspected it is want of water At 11 A M, of one of our hottest days, I found in my consulting room a woman and with her a weak, rickety, 3-year old child, with big head, groveling on the floor, pressing its forehead against the cool oilcloth, was clad in thick woollen overcoat and heavy 'Tam O'Shanter' The child had become restless and almost convulsed at night, eyes rolling, face and fingers twitching, sweating profusely and passing urine in small quantities every ten minutes, crying with pain I asked why the thick overcoat and heavy cap, and elicited the reply she was afraid to bring the child out without an overcoat, as it was 'subject to bronchitis" I inquired if it ever received water to drink, and the mother indignantly answered in the negative, asserting it was allowed only pure milk and, being weakly, strong beef tea I gave it half a glass of water, which was seized upon with a joyous sound and eagerly drank When the greater part was gone I took away the glass, but the poor creature screamed for it and drained it to the last drop The change was immediate and marked The little one no longer groveled, sweating, restless, panting, miserable, hardly conscious of its surroundings, but sat up cheerfully and began to look around and even to talk I took off the thick coat and cap and ordered it to be lightly clad, to be kept as cool as possible, and to have its hair cut short, also to be given a little water frequently, and to have its milk and beef-tea diluted I saw it three days later Though the hot weather had persisted the child was bright and well, had no more twitchings, no more convulsions no more restless nights, micturition was no longer painful or too frequent, and there was no excessive sweating"

Washington Notes

Health of the District —The report of the Health Officer for the week ended July 6 is as follows number of deaths (still births not included) white, 61 colored, 71, total 132 Death rate per 1 000 per annum, white, 17 28 colored, 42 13, total, 25 31 As the season advances the death rate of the city increases The number of deaths reported at the Health Department during the past week was 132, as compared with 105 in the week previous, and the rate rose from 20 0 to 25 25 The increased mortality was confined to infants under 5 years of age, of whom seventy seven died This exceeds the average mortality of this class by nearly 60 per cent The principal causes thereof were cholera infantum, teething and various inflammatory ailments of the intestines Among adults there was less fatality, of which heart and kidney maladies were the most prominent causes The city remains comparatively free from contagious diseases in mortal form There was one death from scarlet fever and no death from diphtheria reported While there was no reported death from typhoid fever during the week, there were thirty deaths therefrom during the last half of the fiscal year as against fifty one during the corresponding period last year

Inspection of Milk in the District —The systematic inspection of milk will be pushed to the full extent of the law passed during the last session of Congress Under this law little chance is left to those who have for sale milk not up to the standard, and when detected the penalty is a fine of not less than $5 or more than $25 for the first offense, with imprisoment for thirty days in the work house in the discretion of the court For the second offense the fine is from $50 to $100 with an imprisonment for ninety days and suspension for six months of permit to sell The standard for milk is stated in the law and other safeguards are provided Prosecution will issue after warning to the offenders, although the warning may not be given in each instance No one may sell or have for sale unwholesome, watered, adulterated, swill milk, milk from cows fed on swill garbage or any other like substance, skimmed milk, without conspicuous notice of the same on the can containing it, or milk containing less than 9 3 per cent of milk solids, including fat, milk taken from cows less than ten days before or the same time after parturition, or from any cow known to be suffering from any general or local disease liable to render milk unwholesome

Smallpox Hospital —The contract for building the new smallpox hospital has been awarded and the work will begin at once in order to complete building by November 1 There will be a model disinfecting plant and all will be inclosed within a high masonry or brick wall It is to be located near the Eastern branch and almost directly east of the District jail

Garbage Disposal —The Commissioners are having a thorough investigation made by the Health Department to determine the best method of disposal of garbage The different plants in the large cities have been inspected and reported upon, but no decision has been reached so far

Bovine Tuberculosis —The report on bovine tuberculosis by Dr Theobald Smith, Chief of the Division of Animal Pathology in the Agricultural Department, is in the hands of the Secretary, and contains many valuable suggestions for the suppression of the disease and its detection Among other things, the report says "The situation certainly demands a most rigid periodical inspection of all animals furnishing milk to consumers, the prompt removal of all suspicious cases, and, above all, a more thorough control of the dairy in the interests of public sanitation"

Hospital Notes

The Governor of Pennsylvania has signed the following appropriation bills for Philadelphia institutions passed by the Legislature during the session just closed University of Pennsylvania, $200,000, and the Hospital Department of the same, $55,000, Jefferson Medical College Hospital, $112,000, Medico-Chirurgical Hospital, $150,000, Kensington Hospital, for Women, $5,000, Maternity Hospital $5,000, Memorial Hospital, Roxborough, $7,000, Philadelphia Lying-in Charity, $8,000, Gynecean Hospital, $25,000, Philadelphia Orthopedic Hospital, $5,000, St Christopher's Hospital for Children $4,000, Woman's Hospital, $8,000, Rush Hospital for Consumptives, $10,000, German Hospital, $20,000, Philadelphia Home for Infants, $5,000, also, Homeopathic Medical and Surgical Hospital and Dispensary, $50,000, Children's Homeopathic Hospital, $8 000, Hahnemann Medical College hospital, $57,100 Outside of Philadelphia, provision was likewise made for the following Columbia Hospital, $3,000, Scranton West Side Hospital, $4,000, Reading Hospital, $15,800, Reading Homeopathic Hospital, $10 000, South Bethlehem, St Luke's Hospital, $20,000, Easton Hospital, $15 000, Conemaugh Valley Memorial Hospital, $10,000, Chester Hospital, $10,000, Scranton Lackawanna Hospital, $25 000, Lebanon, Good Samaritan Hospital, $8 000, Pittston Hospital Association, $11,000, Carbondale Hospital Association, $12,000, Pottstown Hospital, $14,500, Pottsville Hospital, $10,000, Charity Hospital, Montgomery County, $9 500, Lancaster General Hospital, $4,000, Chester County Hospital, $6 500, Jefferson County, Adrian Hospital Association, $10,000, Altoona Hospital, $12,000, Westmoreland Hospital at Greensburg, $6,000, Wilkes Barre City Hospital, $25 000, Williamsport Hospital, $12,000, Pennsylvania State College, $212,000, Western University, $50 000 Among the bills vetoed by Governor Hastings were the following a bill establishing, purchasing land and erecting buildings for a State Hospital for the Homeopathic Treatment of the Chronic and Epileptic Insane near Titusville, $150 000, Philadelphia Polyclinic, $80 000, Wells' Eye Hospital, $5 000, and several others, including one for establishing hospitals at Allentown and at Punxatawny Some of these institutions which have received substantial aid from the treasury of the commonwealth are practically under the control of the State since the Governor *ex-officio* is a member of the board of managers, himself, or he appoints one or more representatives of the board Others are county or municipal institutions, but the greater number are independent or private institutions and, in some instances in fact rivals, to some degree, of the public charities existing in their vicinity ——The Pittsburg Eye and Ear Hospital was formally opened July 8

Travelers' Protective Association —At a meeting of the directors of the Illinois division of the Travelers' Protective Association held in Peoria, July 13, action was taken relative to the establishment of a system of hospitals for the benefit of the members of this organization who may require medical services ——A new pavilion hospital is to be built in Montpelier, Vt, and presented to that city by the Hon Homer W Heaton The cost of the building will be $25,000 ——The new Santa Fé hospital at Topeka, Kan, will be finished October 1

Philadelphia Notes

Accidental Administration of Bichlorid —Prompt treatment saved a man's life after he had swallowed by mistake 15 grains of corrosive sublimate, at the Polyclinic Hospital recently An operation of minor character had been performed without ether, and at its conclusion the surgeon, Dr Thos G Morton, directed a resident physician to give the patient half an ounce of whisky The young man went to the medicine closet and returned with a small amount of liquid in a glass which he handed to the patient, who swallowed it just as Dr Morton remarked that it did not look like whisky The victim replied, "It did not taste like whisky either" The resident was immediately directed to produce the bottle, which was marked, "solution of corrosive sublimate, 30 grs to the ounce" Inside of the next four minutes the patient had swallowed the albumen of half a dozen eggs and in another minute a stomach tube was introduced and the stomach thoroughly washed out The efficiency of the treatment is evident from the fact that the patient has not exhibited a single symptom of mercurialism and has suffered no inconvenience from the energetic treatment to which he was subjected

Pennsylvania Hospital Memorial Wards —The new memorial wards of the Pennsylvania Hospital are now in use, and the older portion has been vacated of patients in order that extensive plans for renovation and extensive improvement may be carried out before next winter

Iodoform Gauze —The methods of making iodoform gauze in different hospitals are far from being uniform The following formula is used in the service of Prof J William White in the Hospital of the University of Pennsylvania to a pint of distilled water, add a small quantity of castile soap (the amount is a matter of experience), boil for ten minutes, allow to cool, add a portion of iodoform, mix and steep in this a quantity of sterilized gauze If the color does not indicate that sufficient iodoform has been used, more is added, and the steeping process continued When the gauze has assumed the proper color it is wrung out, folded and wrapped in waxed paper, which has been sterilized in bichlorid solution The exact strength is of little practical importance, since the iodoform is also freely used as a dusting powder over the surface of the wound

Interesting Case of Head Injury —A man, while playing base ball, was struck by a pitched ball on the side of his head He did not seem to be badly hurt and made no special complaint, but walked home from the ball-grounds, ate his supper and went out to make a call on a young lady During the evening he became sick, and the symptoms were so grave that he was taken in an ambulance to a hospital, where he shortly afterward died It was found that he had sustained a fracture of the skull and that sub dural hemorrhage had taken place, the latter accounting for the late development of the symptoms of compression

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from July 6 1895 to July 12 1895

Lieut Col Johnson V D Middleton, Deputy Surgeon General, is granted leave of absence for one month, to take effect on or about the 2d inst

Capt William W Gray Asst Surgeon is granted leave of absence for two months to take effect on or about August 1, 1895

Capt Reuben L Robertson, Asst Surgeon, resigned July 8, 1895

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending July 13 1895

P A Surgeon R P Crandall detached from the U S R S 'Vermont,' and ordered to the New York Navy Yard

P A Surgeon George McC Pickrell ordered to Washington Hospital

P A Surgeon H T Percy detached from Naval Hospital, Washington and to the Navy Yard, Washington, D C

LETTERS RECEIVED

Atkinson, W B Philadelphia Pa, Armstrong, S T, Asbury Park,
N J Adams, F A, Syracuse, N Y
Battle & Co St Louis, Mo Bullington, T A, Louisville, Ky
Battle & Co St Louis, Mo Bullington, T A, Louisville, Ky

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ADDRESS

THE PRINCIPLES OF MEDICAL CLIMATOLOGY

Delivered at the Twelfth Annual Meeting of the American Climatological Association at Hot Springs Va, June 18, 1895

BY S E SOLLY M D

PRESIDENT OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION
COLORADO SPRINGS COLO

In presenting to you some thoughts upon medical climatology and its underlying principles, I am mindful that while the profession as a whole are lamentably ignorant of the principles of climatology and sadly careless and ignorant in their application, and need instruction in the very grammar of the subject, I have now the honor of addressing those whose reputation and presence here are assurances of their knowledge and serious interest in climatic study I shall therefore, as far as possible, avoid dwelling upon well known facts, but it would seem wise to first define the subject we are to consider

Climate implies the physical peculiarities of a given locality, while climatology is the study of these various climates with their special correspondences and their effects upon man

Medical climatology, in the arrangement of its various departments, may be compared to a pyramid, the broad base of which is formed of the study of climatic physics which include the essence of meteorology and certain portions of geography, geology, botany and zoology Resting upon this physical foundation is the tier, formed of the physiologic effects of climate, this being the study of the influence of the various physical elements of climate separately, first, and then in combination, upon the natural human being, the first consideration being the influence upon special organs and functions, and then upon the human organism as a whole When this point is arrived at we reach the next department or tier in our pyramid, where inquiry leads to the distinctions of race, how they have been located and modified by special climates, first in their physiologic peculiarities and next in their pathologic, so that we have placed upon the layer of physiology one of ethnology and upon this, again, a tier of geographical pathology By the latter, we are taught the special tendencies and dangers of each climate Next, the classification of climates followed by the study of special climates and localities should claim our attention

We have at length arrived at a sufficient elevation on our pyramid of knowledge to undertake the building up of the apex of our structure with climatic therapeutics, beginning with a tier composed of general climato therapy, that is, a consideration of what diseases and what stages and forms of them are likely to be benefited by any climatic change Next, the particular climates suited for the special diseases Then the study of the influence of climate upon the various temperaments and diatheses and, finally, the point is reached of the individual case and its appropriate climatic treatment

Thus, climatology is based upon

1 Physics
2 Physiology
3 Ethnology
4 Geographical pathology
5 Classification of climates
6 Special climates
7 General climato therapy
8 Individual climato-therapy
9 The individual case and its appropriate climate

Under the head of physics, we find certain matters connected with meteorology, worthy of emphasis and consideration The meteorology of a given locality is broadly divided between the general meteorology of the hemisphere, State and latitude, and the local General meteorology is being developed most efficiently by the Government Weather Bureau, and we must do all we can to aid them, especially in their new department of medical climatology, in which by collecting the necessary morbidity and mortality statistics from all parts of the country, the relations of sickness and death to the state of the general weather will be made apparent, and in time, perhaps, warning may be given to the delicate, as it now is to mariners and farmers

The comparison of the general weather and its results with that of special localities and their health will serve to show how the general weather of a given week is modified or intensified by local conditions In local weather reports it behooves us to urge the stating of them more fully, especially with regard to humidity, sunshine and wind and a separation of reports into seasons, and again a showing of what I have termed, in reporting upon Colorado Springs weather, as an *invalid's day,* that is, the average state of the weather during the hours the invalid can and should be out While night air that is not too damp or chilling to permit of open windows is desirable, especially on account of its purity, yet the influence of the night climate when injurious can be much more easily modified than that of the day, and should be considered separately

Under the head of physical conditions there is one point that is far too infrequently reported and too little dwelt upon by the physicians of this country, —the soil; whereas, in Europe, experience and the teachings of science have made it one of the prime factors in judging of a health resort, although a distinguished American physician, the late Henry I Bowditch, was the first to study and demonstrate the importance of considering the soil in selecting a residence, which has been since abundantly confirmed by the labors of others It is not only the material of which the soil is composed that must be considered, but also its natural drainage and the disposition of its watershed The importance of this consideration, while we all present here admit, perhaps we do not sufficiently dwell upon to our clients and our colleagues, often do we find a town in a health-giving air with good surrounding soil, yet situated in a river bottom, recommended for invalids, or a flourishing health resort under benignant skies, built upon a clay bed, or in a basin which can not drain

Again, while the meteorology of a place is of great importance *per se*, it is very much more so in connection with the other conditions, such as elevation, aspect, shelter and soil, as these together make climate, the other alone only weather, and paradoxical as it may appear, it sometimes happens that the climate continues good even when the weather is temporarily bad

There is another point that is worth remembering, that the pleasantest climate to the invalid is not always the best for him While to come "unto a land where it was always afternoon ' is well suited for some, others fare better where the cry of "Cease, rude Boreas," is often heard Thus while a sedative climate is frequently called for, a tonic one is still more often needed Remember, all our climatic prescriptions can not be sugar-coated

Passing now to the study of physiology in connection with climatic therapeutics, we see a field white for the harvest, and it is only from the corn gathered in this field that the bread of knowledge can be made which is alone worthy to be served on the table of the climatologist But, alas, to produce good physiologic work, time and money are the first requisites, in neither of which do we as a profession abound There is a crying need for well trained and well paid physiologists in well-equipped laboratories in all the chief sanitaria of the world, and it is only by placing the knowledge gained through them freely before the therapeutist that our branch of medicine can advance from the present gloom of fiction and tradition, which now is but faintly illumined with a few isolated facts, and from which the health-seeker endeavors to emerge, guided more often by the rushlight of empiricism, or led astray by the will-o'-the-wisp of false theory, than by the lamp of science Some of these lines of investigation are a fuller study of the influence of sunlight and sun heat upon physiologic and pathologic conditions, and some good work has lately been done in their effects upon bacteria This work could be carried on most efficiently in climates where sunlight was most brilliant The influence of atmospheric electricity, and the influence of humidity with both high and low temperature also needs study

Further experiments are needed upon the effects of diminished barometric pressure, while excellent work has been done by Paul Bert, Muntz, Regnard, Viault, Egger, Woolff and Koeppe, in which the blood changes have been noted, yet they need carrying on further, and particularly by physiologists resident in high altitudes, so that it can be demonstrated clearly what are the permanent and what the transitory effects These investigations have gone far to make it probable that the blood changes, such as the increase of red corpuscles and hemoglobin, are the reason for the undoubted clinical fact that altitude is *per se*, the most valuable climatic factor in combating the progress of tuberculosis While this can be reasonably inferred it is not yet absolutely proved

It should also be demonstrated what are the blood changes, if any, brought about by residence upon the ocean or sea islands, as similar results upon tuberculosis to those in mountain air are sometimes brought about The effects of sea and mountain air upon the nervous system need much elucidating Again, the influence of atmospheric electricity upon the human organism stands ready for explanation

To you, I need scarcely enumerate the many branches of study that require more extended work by the climatic physiologist to make way for the pathologist, with the therapeutist in his wake While we ask for more workers and more means, we must not be unmindful of those who have already entered into, and are still laboring skillfully and manfully in this field

In ethnology much good work has been done, but we need the collaboration of the ethnologist with the climatologist so that the lessons ethnology can teach us of climatic influence, especially in transplanted races, extending over long periods of time, can be applied to the elucidation of the more immediate effects of climatic changes upon individuals in the present

In geographical pathology the volumes of Hirsch stand out as a monument of systematic, elaborate and successful research in this field, while the work of Davidson and studies such as those of Matthews on the North American Indians, have added much to this department of climatology

Passing on to the classification of climate, we are confronted with one of the greatest stumbling blocks in the way of placing climatology upon a really scientific basis The interlacing and interdependence of the various factors which go to make climate and the modifications of their relative and combined influences by seasons, by local conditions, and also by remote influences makes it wellnigh impossible to formulate any classification of climates that is not imperfect and open to many objections Therefore at present, at least, this can not be accomplished with scientific accuracy, but only in a broad and general way

The geographical divisions of climate are comparatively easy, as into sea and land, the former with its subdivisions of ocean, island and coast, and the latter with its divisions by elevation, and again, a classification by position to the equator is not difficult But it is when we come to classify the whole by important meteorological conditions then we find the serious difficulties What do we mean by a dry, or what by a damp climate? Of course, when we think of extreme instances we know what we mean But where are we to draw the line, and are we to judge by the absolute amount of moisture in each cubic foot of air for comparison, or by this relation to the temperature Is it the absolute or the relative humidity reached or both together, which determines the class in which the climate is to be placed? The meteorologists themselves are not yet prepared to clearly explain this question Though work is going on among them which will assist in clearing off the fog hanging over it, of this nature is the work of Professor Harrington upon what he very happily terms "sensible temperatures" The amount of evaporation from the skin is regulated by the amount of watery vapor present in the air, that is its humidity, and the greater and more rapid the evaporation from the skin, the greater the coolness of its surface, so the cooled blood of the cutaneous essels carried into the circulation aids in preventng the general body heat rising above normal Thus ve see the value of recording the temperature of the vet, as well as the dry, bulb of the thermometer This is an interesting subject to pursue into its therapeutic aspect, but *verbum sapientis*

Passing to the tier composed of special climates, I will merely say that in my opinion too little consideration is shown to the circumstances of the particular place as regards food, lodging, work and amusements So often, while the general climatic conditions are favorable, yet after all, the sending of that particular patient to that particular place is a failure, it is a case of a round man in a square hole, or *vice versa*, and while the disease may have been placed in the appropriate climate the individual has not As Julius Braun said so admirably in his classic work on "Baths and Health Resorts" "You have to consider not only the individual sickness, but the sick individual in climatic therapeutics" There is much to be said, from which the clock's warning face bids me refrain, but do let us remember the advice I heard Frank Buckland, the naturalist, once give "When you get hold of a fact, pin it down for future use" When found, make a note of it It is the slow accumulation of these, brought together by many hands, in many lands, which will ultimately give us a scientific climato therapy In the recording of cases of phthisis, treated by climate, especially as to results, the history must be sought and reported over long periods to be of real value, and I know full well, this entails much labor and can, with the best endeavors, be only followed in a few out of many cases that are seen

It is not the results of any one man or place that are of so much value as their use with many others, their family likenesses as it were, are brought out and one report aids and corrects the other Again, for comparison, do let us receive more facts concerning the natural history of phthisis as seen by city physicians, where no climatic change could be noted Sometimes we congratulate ourselves that while a case of phthisis did not recover, yet it lived for some time, say for fifteen years, and think that here at least we see the retarding effects of a certain climate, but turning to the pages of such careful observers as Flint, we are led to doubt this special influence when we find similar cases recorded living as long without using such climates

I must now cease giving you these scattered suggestions concerning the principles of climatology and close this brief review of the general subject, to make way for the more important discussion of its various branches, of which the program with its names of authors promises us a rich feast This is a gathering where the men of the sea, of the plain, of the mountain, of the city and hamlet are drawn from their homes, in many cases hundreds of miles apart, to study and advance the science of climatology

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Fourth of July Surgery—A recent issue of *Puck* has the following timely skit "Physician (as he finishes bandaging up Mr Oldboy who has unsuccessfully set off some fireworks) 'Well, how do you feel?' Oldboy (in muffled tones) 'Just like a boy again'"

Laughter is the Staff of Life—Mr Joshua Billings believes that "Every time a man laughs he takes a kink out of the chain of life, and thus lengthens it"

ORIGINAL ARTICLES.

THE TREATMENT OF MALIGNANT TUMORS BY THE TOXINS OF THE STREPTOCOCCUS OF ERYSIPELAS

Read in the Section on Surgery and Anatomy, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md May 7-10 1895

BY N SENN, M D, PH D, LL D
PROFESSOR OF PRACTICE OF SURGERY IN RUSH MEDICAL COLLEGE PROFESSOR OF SURGERY IN THE CHICAGO POLICLINIC ATTENDING SURGEON TO THE PRESBYTERIAN HOSPITAL SURGEON IN CHARGE TO ST JOSEPH'S HOSPITAL, CHICAGO

It has been known for a long time that in exceptional cases an attack of erysipelas has exerted a curative effect on malignant tumors A number of years ago Billroth reported a case of inoperable sarcoma of the pharynx cured by a severe attack of facial erysipelas The tumor mass sloughed and the large defect healed rapidly by granulation, leaving a healthy scar upon the site occupied by the tumor Isolated cases of this kind have been reported from time to time, but the diagnosis was not always established by sufficiently careful clinical observations and microscopic examination of the tumor tissue The discovery of the microbe of erysipelas by Fehleisen, and the cultivation of the streptococcus upon artificial nutrient media outside of the body enabled investigators to produce erysipelas artificially in the uncomplicated form in man and the lower animals As soon as it was demonstrated experimentally that simple uncomplicated erysipelas is a disease attended by but little danger to life, the suggestion was made that, if the disease could be artificially produced in man by inoculation with pure cultures, the local and general conditions thus produced might prove useful in the cure or amelioration of inoperable malignant tumors Of seven persons the subjects of malignant tumors, inoculated by Fehleisen with pure cultures, six developed typical erysipelas, in the seventh case the patient had passed through an attack of erysipelas only a few weeks previously and was, in all probability, still protected against a new attack This patient was inoculated a second time with a negative result Fehleisen has seen, by this treatment, a cancer of the breast become smaller, while a case of fibro sarcoma and another of sarcoma were not materially affected by this method of treatment

Janicke and Neisser have recorded a death from the erysipelas thus intentionally produced, in a case of cancer of the breast beyond the reach of an operation At the post-mortem it was shown that the tumor had almost completely disappeared, and the microscopic examination of portions that had remained appeared to prove that the tumor cells had been destroyed through the direct action of the microbes

Biedert saw in a child suffering from a sarcoma, involving the posterior part of the cavity of the mouth and pharynx of the left half of the tongue, the nasopharyngeal space and the right orbit, the tumor disappear almost completely during an attack of erysipelas

Kleeblatt reports the case of a lympho-sarcoma followed by infection of the cervical glands, in which the tumors diminished markedly in size under the influence of an inter current attack of erysipelas, but resumed its former malignant tendencies as soon as the disease had subsided The patient was afterward intentionally inoculated with a pure culture of the streptococcus of erysipelas, but the beneficial effect was, as before, only a temporary one, as the tumors steadily increased in size, the patient dying of exhaustion In another somewhat similar case, the inoculation caused a typical attack of erysipelas, under the influence of which the tumor rapidly disappeared.

Cases, on the other hand, have been reported in which, after an accidental or intentional attack of erysipelas, the malignant tumor began to grow more rapidly Neelsen describes a case of carcinoma of the breast in which, after two severe attacks of erysipelas, the tumor not only began to grow faster, but at the same time regional infection progressed more rapidly

Bruns gives an account of the effect of erysipelas on tumors in twenty-two patients Among these, three cases of sarcoma were permanently cured Two cases of multiple keloid after burns were also permanently benefited In four cases of lymphoma of the neck, some of the glandular swellings disappeared completely and some were reduced in size In three cases of carcinoma of the breast, one was not influenced by the treatment, in one the tumor was diminished one-half in size, and in the third it contracted to the size of a pea, in which condition it remained at the time the report was made A multiple fibro-sarcoma was greatly benefited, while an orbital sarcoma was not improved

Spraenth concludes as the result of his observations that the products of the erysipelatous inflammation in certain cases can act in a curative manner upon malignant growths He injected subcutaneously at a point distant from the tumor the sterilized toxic products of the microbes of erysipelas Improvement and even complete disappearance of the tumors followed, although recurrence usually took place The effect was much more marked in sarcoma than in carcinoma

Burch observed that as a result of accidental or intentional infections with the microbe of erysipelas, tumors such as sarcoma disappeared by fatty degeneration

Janicke and Neisser demonstrated by microscopic examination that cancer cells were actually destroyed by erysipelas streptococci In view of the uncertainty of the result and the not inconsiderable danger to life which attends the inoculation of live cultures of the streptococcus of erysipelas, in patients debilitated by antecedent disease, it is safe to predict that this therapeutic resource will be abandoned in the future treatment of malignant tumors

Coley, of New York, has made the treatment of malignant tumors with live and sterilized cultures of the streptococcus of erysipelas a special study since 1891 In 1893 he reported ten new cases of malignant tumors treated by repeated inoculations with erysipelas From a study of the literature of this subject at that time it was found that there were recorded thirty-eight cases of malignant tumors in which an attack of erysipelas had occurred, either by accident or intent In thirty-three cases the erysipelas was accidental and in fifteen it was the result of inoculation Of seventeen cases of carcinoma, three were permanently cured Of the seventeen cases of sarcoma, seven were free from recurrence from one to seven years after the attack of erysipelas Ten cases showed quite marked improvement, one patient died as the result of an accidental attack of erysipelas

In the summary of the analysis of recorded cases, Coley excluded eight cases of his own, treated by repeated inoculations with erysipelas cultures, in none of these cases did an actual attack of erysipelas result, and yet the inoculations appear to have been followed by marked improvement, and this would indicate that there exists in the cultures some substance which is antagonistic to the tumor growth

In view of the fact that the artificial production of erysipelas by inoculations with active cultures of the erysipelas microbe is not devoid of risk to life, and that improvement in certain cases followed, by inoculations with live cultures, which did not produce erysipelas, these facts led Coley and others to employ sterilized cultures, which appear to have produced the same therapeutic effects as the active cultures

It was also ascertained by experiments that the efficiency of the dead cultures is increased by the addition of the bacillus prodigiosus, a comparatively harmless microbe In a recent article on the treatment of malignant tumors with the toxins of these two microbes, Coley maintains the efficiency of the mixed dead cultures of these two microbes in the treatment of some cases of malignant tumors, especially sarcoma In the same publication he reports nine cases of inoperable sarcoma permanently cured by repeated inoculations with the mixed toxins of these two microbes, that came under his own observation, and refers to a few successful cases in the practice of other physicians The toxins which he uses now are prepared in the following manner

"*Method of Preparation of the Toxins*—To make the toxins of erysipelas and prodigiosus, ordinary peptonized bouillon is put into small flasks, containing 50 to 100 cc, which, after proper sterilization, are inoculated with the streptococci of erysipelas and allowed to grow for three weeks at a temperature of 30 to 35 degrees C The flasks are then inoculated with bacillus prodigiosus, and the cultures allowed to grow for another ten or twelve days at room temperature At the end of that time, after being well shaken up, the cultures are poured into sterilized glass stoppered one-half ounce bottles, and heated to a temperature of 50 to 60 degrees C for an hour, sufficient to render them perfectly sterile After cooling, a little powdered thymol is added as a preservative, and the toxins are ready for use The toxins when prepared in this way are very much stronger than when filtered through a Pasteur, Chamberland or Kitasato filter, the active principles contained in the germs themselves being preserved If, as is sometimes the case, the preparation is found to be too strong to use with safety, it can be diluted with glycerin or sterilized water

"The best method of making the bouillon is to soak a pound of chopped lean meat over night in water In the morning strain it through a cloth, make up to 1,000 cc, and boil for one hour Then filter through a cloth, add peptone and salt, neutralize and boil again for an hour The bouillon will then pass through filter-paper perfectly clear, and be ready to put into the flasks It is not, however, necessary to neutralize the bouillon, as the streptococci will grow even more readily in acid bouillon, and the resulting preparation is, if anything, stronger than when neutralized bouillon is used

"In order to keep up the virulence of the cultures they are put through rabbits in the following way the hair of the ear is clipped close with a pair of scissors, and the skin washed with weak carbolic acid, and then sterilized water A minute quantity of a bouillon culture, forty eight hours old, is then injected subcutaneously in four or five different places in the ear Forty eight hours later, after again washing the ear with carbolic acid and sterilized water, a flat needle sterilized in the flame is inserted under the skin at or near the point of inoculation, and the layer of the skin cut off with a sharp sterilized scalpel The piece of skin is then rubbed well over the surface of an agar tube with a thick platinum wire needle After twenty four hours in the incubator the colonies of streptococci will show as minute white specks, and from them a pure culture can be obtained If the agar is made with 75 per cent of bouillon and 25 per cent of urine the streptococci will grow more freely than if bouillon alone is used The dose of this preparation varies from 1 to 8 minims I have had a temperature of 105 degrees F follow the injection of 2 minims I usually begin with the minimum dose and gradually increase until the desired reaction, *e*, *g*, temperature 103 to 104 degrees F is reached"

Coley does not say that this treatment is successful in all cases, and reports his failures with his successful cases, but his satisfactory results are out of proportion to those of any other practitioner, in the employment of the same remedy in similar cases It is generally known that carcinoma has proved more refractory to the toxins of the streptococcus of erysipelas and the mixed toxins than sarcoma

A distinction should be made between the therapeutic action of non malignant tumors of erysipelas and the subcutaneous injections of sterilized cultures of the microbe of this disease In erysipelas involving a malignant tumor, the superficial lymphatic channels are the seat of an active inflammation, the product of which always temporarily obstructs the pathways through which local, regional and general infections occur and, in exceptional cases, permanent interruption of the lymph current may limit or arrest the growth of the tumor No such anatomic changes are produced by the injection of the toxins

The treatment of inoperable sarcoma and carcinoma with the mixed toxins, as advised and practiced by Coley, has been given a fair trial in the surgical clinic of Rush Medical College, and so far it has resulted uniformly in failure

The accompanying table is a brief summary of the cases subjected to this treatment

The injections were made daily, gradually increasing the dose until the desired reaction was produced In most of the cases the reaction was initiated by a chill, or at least a sense of chilliness The temperature reached the maximum height in the course of a few hours, and continued from six to twenty-four hours The toxins used were obtained from three different sources, the last supply directly through the courtesy of Dr Lambert, of the laboratory of the Cancer Hospital, New York A temporary swelling and diffuse reddening of the skin at the point of puncture was a common occurrence, abscess formation was seldom observed Loss of appetite, restlessness and insomnia were some of the general symptoms most constantly produced by the injections, when used in doses large enough to provoke febrile reaction In all of the cases, the injections failed to effect even temporary improvement, and in some of them the local and general conditions appeared to be aggravated by the treatment The results of this treatment have been most discouraging in my hands, and although I shall continue to resort to it in otherwise hopeless cases in the future, I have become satisfied that it will be abandoned in the near future and assigned to a place in the long list of obsolete remedies employed at different times in the treatment of malignant tumors, beyond the reach of a radical operation

Name	Age	Tumor	Number of Injections	Dose in minims		Reaction
				Minimum	Maximum	
Ross	[illegible]	Multiple melano sarcoma of breast and subclavicular lymphatic glands	3	3	10	101° F
Nelson	[illegible]	Sarcoma of testicle regional infection of lymphatic glands	3	3	8	103° F
Sherwood	47	Sarcoma of thigh	30	6	9	101° F
Hickman	[illegible]	Recurring sarcoma of shoulder after amputation through shoulder joint for sarcoma of humerus	110	5	12	101° F
Leichsenring	48	Fascia sarcoma of back	40	7	12	102° F
Scott	50	Carcinoma of penis Infection of lymphatic glands of groin on both sides	20	7	8	102° F
Young	[illegible]	Sarcoma of mouth	[illegible]	4	12	102° F
Ehrlitz	52	Secondary carcinoma of lymphatic glands of ureter	[illegible]	[illegible]	10	103° F
Movius	[illegible]	Carcinoma of uterus	[illegible]	4	15	101° F

DISCUSSION

Dr W B Coley—I wish to thank you for the courtesy you have extended me by asking me to open the discussion on a subject in which I have been deeply interested during the past four years I hesitate to offer my own experience against that of so distinguished a surgeon as Dr Senn, and I will first say that I heartily commend Dr Senn for bringing before you his own results from the treatment with the toxins, —failures though they be No scientific opinion as to the value of the treatment will be possible unless the failures as well as the successes are recorded, and I myself have conscientiously endeavored to follow this method in my own work

Since May 3, 1891, I have treated eighty-four cases of inoperable malignant tumors with the toxins of erysipelas and bacillus prodigiosus, and it seems to me that a careful study of these cases, extending over a period of four years, ought to enable us to formulate some definite conclusions as to three very important questions

1 Have these toxins a destructive effect upon malignant tumors?

2 Is this effect merely temporary, or permanent?

3 What forms of tumors are most susceptible to the action of the toxins?

A study of my own cases shows that of forty three cases of inoperable sarcoma treated with the toxins, eleven have been successful One of these has since had a return of the trouble, one has gone nearly four years, two, more than two years, and two, one and one half years, without relapse

Within one month I have presented three cases before the Surgical Section of the New York Academy of Medicine, two of which had gone more than two years since treatment, and still remain in perfect health These results are indisputable facts, the diagnosis having been established, not only clinically by the leading surgeons of the East, but confirmed microscopically by the best pathologists, and if further evidence were needed, the fact that a number of them had rapidly recurred after operation, would be enough to establish their malignancy If the diagnosis is still doubted, after having been subjected to all these tests, it seems to me that we had better at once abandon the discussion as to the treatment of sarcoma, and employ our time in learning how to make a diagnosis

In regard to carcinoma, up to the time of my last paper read before the Academy of Medicine, Nov 15, 1894, I had nothing but improvement follow the treatment in cases of carcinoma, and I have never advocated the toxins in carcinoma except as a matter of experiment, though I confidently believed that in time good results would be obtained in this as in sarcoma

Since November I have had two cases of epithelioma entirely disappear One was a very rapidly growing epithelioma, involving the lower jaw and floor of the mouth and chin The case was sent to me by Dr George R Fowler of Brooklyn, in July, 1894, and was treated about three months at the New York Cancer Hospital She has had no treatment since November, no evidence of the growth can be found, and the woman is now in perfect health The entire tumor had developed in a space of four months, and the involvement was so extensive that Dr Fowler regarded it as hopeless from an operative standpoint

Against this positive evidence, based upon eighty-four cases extending over a period of four years, Dr Senn has presented on the other side nine cases, covering a very brief period of observation If we analyze them, what do we find? We find first, three of the cases were carcinoma, a class of tumors in which I have not advocated the treatment A fourth case was a melano-sarcoma, a rare form of sarcoma, of which I have treated three cases without success The fifth and sixth cases were very advanced osteo sarcoma, which I distinctly stated in my paper were the least influenced by the toxins There remain but three cases upon which he can justly base an argument against the value of the toxins With this limited experience, covering so short a period of time, Dr Senn tells you that the treatment is valueless, and in another year will be entirely abandoned I can only say that, if I continue to have as many successes in the coming year as I have in the past I venture to predict that I for one shall be using the treatment, and I do not believe that I shall be the only one

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ON SOME POINTS IN REGARD TO STERILIZATION IN PRIVATE DWELLINGS, WITH THE DEMONSTRATION OF SOME NEW ASEPTIC APPLIANCES

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7-10 1895

BY CARL BECK, M D

NEW YORK

Since the experiments of Petri and Cleves-Symmer have demonstrated that by bacteriologic test, what long before appeared to be probable on the base of clinical observation, namely, that the atmosphere has practically no bearing upon infection, but that the human body is invaded by bacteria by contact, in other words, by the wounding instrument, by the hands of the surgeon, by clothing or by the skin of the patient, the question of operating inside the hospital has entered a new stage

As besides Lister, the father of modern wound treatment, there is still a considerable number of surgeons who maintain that the atmosphere has at least *some* bearing upon infection, I thought it to be well worth while to refer to the experiments alluded to from a strictly surgical standpoint

Petri fixed the special forms of microbes suspended in the atmosphere and ascertained at the same time the number of microbes present in a determined volume of air He determined the presence of microbes by pumping a measured volume of air through a filter of sterilized sand This sand, to which all the microbes of the atmosphere adhere, he distributed on Petri's plates containing sterilized gelatin On this gelatin the microbes multiplied by forming as many separate colonies as there were microbes, so that the latter could easily be counted By determining the next question, namely, that of the number of microbes settling within a fixed time upon a wound surface of a certain area, he found that a parallelism could not be assumed between the microbe capacity of the air and the quantity of the deposits It would naturally be expected, that air containing only a few microbes would deposit but few upon wounds, and *vice versa* But this parallelism does not always exist, as the microbes are not equally distributed in the air, but some regions are densely and some are sparsely populated This fact can be shown, if according to Cleves-Symmer several gelatin plates are exposed at the same time and if the different plates are kept in the same part of the room Then a great difference as regards quantity and quality is found, for neither the same kind nor the same quantity of microbes settle upon the plates

Cleves-Symmer also exposed gelatin plates for seven days simultaneously in three surgical wards This exposure was made five times a day, the first at 5 o'clock A M, while the patients were asleep, and the second at 7 o'clock A M, after the floors were first washed and then scrubbed Similar exposures were made at 9 A M, when operations were generally performed, and the last exposures were made late in the afternoon The sterile gelatin was contained in round, flat, large-surface Petri dishes After they had been exposed each time for twenty minutes, they were covered and preserved in a moist incubator in which the temperature was that of the room The developing colonies, as soon as they could be recognized by the naked eye, were counted daily, and were observed so long as they could be distinguished from one another Among 4,613 microbes so developed there was found but one pathogenic microbe, which was the bacillus pyocyaneus At a time when nearly every third case in the hospital suffered from a wound in the secretion of which this bacillus was contained, there were certainly ample opportunities for it to permeate the atmosphere, if, despite this, a pathogenic microbe was found but once, it is proof enough that the air contains necessarily very few pathogenic microbes

Clinical experience accords with this The operating rooms of Billroth at the old "Allgemeines Krankenhaus" in Vienna were far from being an anti-infectious ideal The same remark applies to many other celebrated operating rooms, among which I may only mention the Albert Amphitheater in the same city and the one of the eminent surgeon, Gussenbauer, in Prague As far as my own experience is concerned, I may state that it is also in accord with these theoretical propositions So, for instance, were the average results in St Mark's Hospital, New York, about just as good in its old building (the very poor accommodations in which premised all the elements of atmospheric infection, since the most rigid observations of aseptic principles were carried out in reference to all objects that came into direct contact with the wound), as those obtained in the new building, which merits the designation of a model hospital, particularly with reference to modern aseptic appliances

If, then, success does not depend upon the marble floor of a modern operating room, and upon more or less complicated apparatus, but upon carrying out the principles of asepsis so far as direct contact with wounds is concerned, there is no reason, why aseptic operations could not be performed almost anywhere

If it would really be as Neuber, one of the most distinguished pioneers of aseptic principles, maintains, that the arrangements of the operating rooms are the main requisites for success, it would be no less than a crime to operate outside of the hospital Neuber lays great stress upon having separate operating rooms (he himself uses five different operating rooms in his own private hospital) and demands at least two different operating rooms for even the smallest hospital, one at least, for septic and one for aseptic cases, each possessing separate furnishings and supplies There can be no doubt that it is *desirable* to have at least two operating rooms Their absolute *necessity*, however, is open for discussion The whole question, after all, seems to converge more and more to the one point, that operations performed in private dwellings entail a great deal more trouble to the surgeon than they would in a hospital, where everything can be carried out with the greatest convenience, so that it is quite natural that a surgeon, when having the choice, would prefer operating in a hospital

The advocates of atmospheric infection seem to regard every operation performed outside the hospital as a criminal act, more or less But opinions change quickly nowadays and to quote Schiller "There is nothing more permanent than constant change" It is only a few years ago since a reputable German surgeon demanded prosecution by law of every surgeon who omitted using carbolic acid during operation I should not be surprised if the same energetic colleague would demand the arrest of the same unfortunate Æsculapian who did not do the contrary now It seems to me that there was never a time when operations outside of the hospital were more justifiable than under the present auspices of asepsis I sincerely hope that this statement will not be mistaken for an endeavor to encourage an inexperienced practitioner to perform major operations Beside asepsis there are required a great many other points In the first place, a surgical routine of years' standing, second, there must be at hand well trained assistance, without which a surgeon is hardly justified in performing major operations

It is absurd to advise a surgeon to take a bichlorid bath every day, and unnecessary to remove all furniture, paintings, carpets, etc, before operation in a private dwelling, or to wash the walls of the private operating room with bichlorid and scrub them afterward with crumbs of bread The latter procedures will certainly do no harm if undertaken a few days before the operation, but if done only a few hours before the operation, they will be apt to impregnate the atmosphere with many more microbes, probably also with "pathogenic" microbes, as such maneuvers can not be done without stirring up a considerable quantity of dust, which will settle upon clothing or such other objects, which may afterward come into indirect contact with the wound It is therefore advisable not to disturb the operating room shortly before operation But great care should then be taken to keep the tables, chairs, or whatever else should be required for the operation, covered with sterilized, or at least with freshly washed and ironed sheets or towels If it should have happened that dust was stirred up shortly before operation, floor and walls should be sprinkled, as moisture precipitates the microbes

For an operating table, a strong kitchen table may serve, if the surgeon should not prefer to take a portable operating table along Upon two other tables of medium size the instruments, trays, dressings, sponges, etc, are placed If such tables are not available, wooden chairs have to answer the purpose If possible, all such objects as chairs or tables should be scrubbed with soap and hot water and with bichlorid of mercury (1 to 500) Such arrangements can be made under the supervision of an assistant or a nurse, who may be sent to the house of the patient the day before the operation is to take place They should also see that the patient takes a warm bath and is also shaved in case there should be any hairs present on the field of the operation Scrubbing with ether and bichlorid should follow these procedures Then the field of operation should be covered with a large poultice of green soap, which may remain until shortly before operation, except there are signs of susceptibility to dermatitis, in which case a bichlorid solution should be substituted The nurse must also instruct the family that an abundant supply of boiling water must be ready in large vessels and that there must be at hand a sufficient number of bed sheets and plenty of towels If tin boilers must be used, they should be scrubbed with sapolio and be covered with sterilized towels China pitchers and basins may also be prepared in the same manner and afterward washed with a strong bichlorid solution, etc

As a surgeon must always be prepared for an outside call, he should have a set of asepticized surgical appliances ready in a satchel at his office I found it convenient to preserve the instruments generally required in linen cases, having a separate one for abdominal sections, one for operations upon the bones, one for the uropoetic system, one for tracheotomy, one for general use, etc These linen cases may be rolled up and tied in the middle with a cord after being used The case designated for general use contains such instruments as are required in any operation—that is, scalpels, scissors, forceps, retractors, spoons, probes, needles, etc,—and is carried along with the one designated for a special operation For instance, if a herniotomy is to be performed, the "general set" is accompanied by the laparotomy set These instrument cases can be carried along with the other necessaries in a satchel I use a satchel of rectangular shape about 42 centimeters long, which gives ample space for the instruments required, as well as for the other necessaries, consisting of my folding sterilizer, of a sufficient quantity of trays fitting one into another, of gauze, cotton or moss bandages, silk, catgut, rubber gloves, green soap, soda, bichlorid tablets, ether (resp chloroform, morphin tablets, camphorated oil for hypodermic use, brushes, etc It will sometimes be convenient, to carry the surgeon's coats, towels, sheets, etc, to the house also The brushes for scrubbing the skin surface, if sterilized, can be carried in sterilized towels, as well as the gauze and the other dressing material The ligatures are kept best in one of the metal boxes, devised by Schimmelbusch or Braatz or myself Iodoform gauze, if required, may be carried conveniently in a "Duehrssen" receptacle In reference to my sterilizer, I may be allowed to state that its main advantage consists in its compactness, as its separate parts can be easily put together Its lower division, which is also the smallest one, consists of a reservoir which fits into a larger division If desirable, a fourth division can be set up The reservoir of the lowest division must be half filled with a solution of soda A wire net on which the instruments are to be placed fits into this reservoir Into the projection of the walls of the second or third division, wire sieves to receive the dressings, towels, sponges, etc , have to be inserted To the lower division are attached two folding supports between which, when in use, is placed the alcohol lamp which is so constructed as to allow of its being carried along with safety when filled with alcohol Beside the regular attachments —that is, the alcohol lamp, the wire sieves for the instruments, two hooks for pulling out the latter and the thermometer—a few instruments, a silk box, etc , find ample space in the lower division (reservoir) After being folded together, the height of the apparatus amounts to 6 centimeters This height is less than one-fourth of that of the whole apparatus when ready for use, which amounts to 27 centimeters The sterilizer can either be put into an instrument satchel or be carried under the arm Two quarts of water will be so heated (as indicated by the thermometer fitted into an opening in the lid) as to fill the whole sterilizer with steam of a temperature of 212 1 degrees F Anthrax spores dried on silk ligatures showed no cultures after they had been exposed to the steam for fifteen minutes The apparatus is made up now in five different sizes

37 E 31st Street

PROPHYLAXIS IN SURGERY

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md , May 7 10 1895

BY GEORGE WILEY BROOME, M D
ST LOUIS

In briefly discussing the subject of the prophylaxis of infection in operative surgery, it is my intention to speak also of the measures necessary to prevent unnatural union between tissues under the title given to this paper, and I shall first speak of the operation of amputation as it relates to the prophylaxis of infection and, in connection therewith, the prevention of the amalgamation of heterologous structures in the reparative processes of the wound But before entering upon the subject I may be permitted to preface the discussion with the observation that there is but one author in the world, so far as I am aware, who holds and advocates the theory that the apposition of peritoneum to peritoneum is a surgical error, although I am clearly cognizant of the fact that thousands of operations terminate in the unnatural union of tissues, that is, the union of tissues of a different kind or nature But I am also quite certain that such results were not intended by the operator Mr J Greig Smith bases his arguments on the doubt of the principle of sero-serous apposition in connection with intestinal operations, and particularly with the means of providing intestinal drainage "Many of these operations," he says, "had to be repeatedly performed, and in some of them I dared to ignore the time-honored habit of 'shutting off the cavity' by suturing parietal peritoneum to bowel, and both to skin, often, indeed, I omitted to place sutures of any kind The practical outcome of this has been, that where I want temporary drainage, with loose adhesions and mobile bowel—as in temporary enterostomy—I suture parietal peritoneum, bowel and skin, but where I desire firm, permanent and intimate adhesion, with no mobility of bowel on parieties—as in celio colostomy—I implant bowel directly on raw surface, and if this raw surface is small, as it is in thin subjects, I increase it by unfolding or peeling from the parieties more peritoneum, and turning its raw, not its serous, surface from the bowel

"Further evidence in favor of the strength and durability of sero fibrous adhesions is supplied by the occurrence and persistence of adhesions when surfaces are left after operation uncovered by peritoneum Adhesions between bowel and raw surface (such as the stump of a pedicle) may, as we know, be strong enough to cause obstruction A recent hospital case, where I had to re-open the abdomen for obstruction a week after removal of the appendages for myoma, was a striking example of this The intestinal wall was positively incorporated with the surface of one of the ligated pedicles, it was quite impossible to tear them apart, it was necessary to cut away a piece of the stump and liberate the intestine Such adhesions remain to give further trouble also

"Sero serous adhesions, on the other hand, tend to disappear, often they disappear very quickly Indeed, as I have said, where loose and temporary fixation is desired, as in temporary drainage of intestines for obstruction, sero serous apposition I now believe to be better than sero-fibrous *One prime advantage of sero-serous union is that it takes place very rapidly, that in a few hours it is water- and gas-tight* But such union is no more rapid than when peritoneum is opposed to a raw surface If we bear in mind the histologic forces at work, we can readily understand how this should be, the layer of lymph and young cells which lie between the serous surfaces have little cohesion, and being shut off by a double layer of endothelium from vascularization and from ingrowth of plasma cells, are long in being converted into true granulation tissue Vascularization is slow and fibrillation is slow, and while they are going on, nature is beginning to get rid of the exuded lymph Such adhesions often disappear, if they remain they nearly always get thinned and elongated If there is little to choose between the two, as regards prevention of extravasation of fluids for the first few hours, the sero fibrous has a decided advantage as time goes on The lowly organized, inert and loosely coherent plug of lymph is easily disturbed and would be easily broken up in the presence of fluid This we know to our cost, it is on the second or third day that leakage takes place A sero-fibrous junction that lasts for a day is practically safe forever, for it goes on improving in strength and solidity

"The practical application of these principles is as wide as abdominal surgery, and includes not only results to be encouraged, but results to be avoided Where it is desired to secure quick, strong and permanent union, sero fibrous apposition is better than sero serous Where the union sought need not be strong, and is desired to be only temporary, sero-serous apposition may be adopted

"In ordinary work, the carrying out of these principles involves some such processes as the following fibro fibrous as against sero-serous apposition is carried out in the closure of the parietal wound, in operations for the cure of ventral and umbilical hernia and in kolpo hysterectomy Closure of the parietal incision is made by apposition of the raw peritoneal flaps outfolded, and not of the intact serous surfaces inturned This may incidentally be mentioned, that by abolishing the inward dip of the united peritoneal flaps, it helps to prevent ventral hernia "

I have quoted from Mr Smith's address upon this subject rather extensively, for the purpose of giving a tolerably clear understanding respecting his arguments and data for the benefit of those who may not have read the article, but desire to know the position assumed in the matter by one so capable of making reliable clinical observations But going back to my subject, as an illustration of the unintentional, as I take it, of the amalgamation of tissues following the operation of amputation, I have here several photographs taken, regardless of any effort to select the cases, from among the membership of a society in St Louis organized under the name of the "Knights of Willow" Each one of these knights has at one time or another undergone an amputation of a limb, and, I may add, perhaps 90 per cent of the members of this society suffer to some certain degree from the consequences of either unnatural adhesions between the tissues or in consequence of the vulnerable position of the cicatrix of the stump The prophylaxis of these, to say the least unfortunate sequences consists, from my standpoint, in the following steps in the procedure of an amputation

1 Purification of the instruments, the disinfection of the hands of the operator and of the entire limb of the patient

2 The production of artificial anemia by elevating the limb and the application of the constrictor several inches above the point at which it is proposed to amputate

3 Fashion a long anterior flap by extending the incision down to the sheaths of the muscles and tendons The entire flap is reflected by dissecting closely to the muscle and tendon, a short posterior flap is reflected backward by a like dissection, when the muscles are severed by a clean circular sweep of the knife down to the bone

4 About one inch of the periosteum is then exposed below the point at which it is proposed to saw the bone The periosteum now being incised is reflected upward, after the fashion of a cuff

5 The soft parts are now to be retracted by an assistant by means of iodoform gauze The bone is then sawed at an oblique angle for about a quarter of its thickness, when the saw is withdrawn and placed at a right angle with the shaft of the bone and the bone is sawed off

6 The end of the bone is now carefully trimmed and rounded, the periosteum brought down accurately over the sawed surface of the bone and carefully sutured by means of a small needle armed with very fine, perfectly sterilized silk

7 The sheaths of the artery and vein are now carefully dissected up, these vessels exposed, the artery first ligated, then the vein ligated separately, after which a single ligature is thrown around both and tied The sheaths with the attached connective tissues are then carefully sutured over the ends of these vessels by the same means as were employed in covering the bone

8 The nerve is now dissected from its connective tissue attachments and exposed for two or two and a half inches above the divided muscle, then cut off by means of blunt-pointed scissors The sheaths and remaining connective tissues are now brought over the ends of the divided muscles and sutured in a similar way to that adopted in covering bone and vessels

9 A large compress of iodoform gauze is now folded tightly against the stump and the skin flaps brought down over the gauze and held firmly and forcibly against the stump in both hands of the operator, when after the lapse of four or five minutes the constrictor is quickly removed After the expiration of several minutes more, the operator's hands are relaxed, the iodoform gauze tamponade is removed and the stump carefully inspected, when, if all hemorrhage has ceased and the conditions are favorable for rapid and uninterrupted repair, the flaps are carefully and accurately sutured by means of medium-sized, perfectly sterilized silkworm gut

10 The wound is now dusted with powdered iodoform, several layers of iodoform gauze brought in contact with the stump, then over this and including the entire leg is placed a heavy layer of absorbent cotton This is held in position by means of a neatly applied roller bandage

11 The limb is now placed upon a well padded posterior splint and another roller made to include this splint and limb

12 The patient is then put to bed and the limb kept elevated at an angle of about 45 degrees

I consider the details briefly outlined above, to be absolutely essential in order to secure the prophylaxis of infection, unnatural adhesions and proper position of the cicatrix These rules will apply to amputations at other points than this

The chief points to be observed in performing an amputation, according to most of the text-books do not entirely cover what I deem to be wholly essential in order to secure the very best results For example, if we turn to this subject in the "American System of Surgery," a book which has just passed through the press, we find the subject matter embraces about the following precepts

"If the conditions essential to a sound and useful stump are constantly kept in view, any of the stereotyped or extemporized methods may with patience and dexterity be made to yield good results The recognized methods of amputation are circular, the single flap, the double flap, the rectangular flap, the bilateral flap, the periosteal flap

"The wound must be closed and dressed according to certain principles The application of hot water by rapid douches to amputation wounds is an excellent method of arresting hemorrhage and preparing the surfaces for prompt union The hot water must not be allowed to remain in contact with the limb The vessels having been secured, if the fibrous sheaths are seen, as in amputations at the metacarpal phalangeal articulations, close them with two or three fine sutures, then close the wound with two or three deep and several superficial interrupted sutures Place in the angles of the wound proper drainage tubes, so as to relieve it of all accumulating fluids Support the parts in such a manner, by splints, or slings or pads, that they need not be moved in dressing Apply such dressings as will support and protect the wound, but admit of easy change "

I do not agree with this teaching, for, in the first place, I think that the indiscriminate use of the drainage tube is unscientific and certainly a prolific source of infection, and hence a practice that is likely to terminate in destroying all the good effects which would otherwise have been obtained by the scrupulous observance of the steps described above, for when the stump becomes infected, then follow suppurative inflammation and ulceration, with all the baneful sequences In the repair of inflammation, that is, in the restoration of the tissues to their normal integrity, not only must the inflammatory exudation be removed, but the injury of the tissue caused by the inflammation in the first place must be repaired In any inflammation there is always a destruction of tissue Disorganization of the effects of your handicraft on the tissues destroyed must be replaced by a new formation of tissue Furthermore, by careful and somewhat extensive clinical observation I am clearly convinced that the irrigation of a stump for simple hemostatic purposes is unnecessary, unscientific, and many times a cause of infection Dry sponging after careful hemostasis by means of the ligature and pressure are productive of far more satisfactory results Drainage is unnecessary to relieve the accumulation of blood beneath the flaps if the vessels have been properly secured, for the clot which forms to fill up the space underneath the flaps proves to be one of the wisest provisions of nature in hastening permanent and accurate healing The clot itself being entered by leucocytes in the first instance and subsequently plasma cells penetrate, the latter of which organize into fibrous tissue, while epithelium after a time spreads over its surface

In the next place, I do not agree that the best results can be obtained by amputating in such a manner as will leave the cicatrix directly over the end of the stump, either transversely vertically or obliquely The position of the cicatricial tissue should be remote from the end of the stump The suggestions of C W McCullough, the artificial limb maker of St Louis, in this respect, I dare say, possess great value, for he tells us that "in all amputations of the leg and thigh, as well as knee disarticulations, the cicatrix should, as far as possible, be placed well away from the extremity of the bone, preferably along the posterior aspect Contiguity or adhesion of the cicatrix with the extremity of the bone is frequently the cause of suffering All stumps should be provided with ample flaps, not redundant flaps, a redundance of tissue on the extremity of a stump is of no advantage The prime office of a flap is to protect the extremity of the bone, and it should be only ample to effectually perform that function Whether the flaps are anterior or posterior, exterior or interior, or a combination of any of the four, it matters not so long as the extremities are well protected Periosteal flaps are desirable, as they give additional protection to the bone and prevent integumentary flaps from becoming adherent to the bone If an amputation is to be done below the middle third of the leg, bones should sacrificed in order to obtain a suitable flap If the amputation is to be made above the middle third, bone should not be sacrificed, even if transplantation is necessary in order to secure a flap Every inch of healthy bone above the middle third is desirable for leverage purposes If a thigh amputation is to be done close to the knee, bone can be sacrificed in order to secure a flap The nearer the amputation is to be done to the body the greater should be the care to save bone"

While our methods to secure aseptic surgical results are almost perfect, it has been conclusively demonstrated, I believe, to the mind of every observant surgeon, that it is in some instances impossible to render the skin of the abdomen through which a given operation is to be made perfectly free of pathogenic microbes The circumstance is constantly being forced upon the surgeon's clinical observation that there are pyogenic bacteria living beneath the external layer of the skin which can not be removed from their habitation by measures that will not entail destruction or at least impair the function of the skin of that particular area We furthermore realize that pathogenic bacteria never migrate beyond the integument unless an avenue is established for their passage We know also that the integument is the great bulwark against the entrance of pathogenic microorganisms to the underlying tissues, but which when reached there is every requisite for their rapid growth and multiplication and the production of their toxins So it may be said that the intact skin is invulnerable to these bacteria while, on the other hand, the underlying tissues are positively vulnerable, that is, the former is an absolute hindrance against the pathologic effect of the pus microbe, while the latter furnishes an ideal soil for its growth These facts must be kept constantly before us if we hope to attain something approaching the ideal in the prophylaxis of infection in operative surgery I am impressed with the belief that it is absolutely incumbent upon us, in the light of our knowledge respecting this subject, to undertake to revolutionize the unscientific and the unfortunate practice of closing a wound through the abdominal wall by including the skin, fascia, muscle and other tissues by one single suture It is in dealing with the abdominal cavity that the greatest exploits of surgery have been achieved—exploits surpassing everything that was formerly conceived The peritoneum which used to be a *noli me tangere* is now entered and closed as fearlessly, especially by the gynecologist, as if it were the playground of surgery

I have here several photographs intended to illustrate the same idea of prophylaxis in operative surgery that is conveyed in the steps describing an amputation The flap method and the plan of uniting the underlying tissues should be extended to all of the operations through the surface of the body, particularly in celiotomy, herniotomy, in exposing the stomach, gall bladder and the kidneys So that it may be understood that my chief aim is that in opening the abdomen, in opening joints, in shortening tendons, in which the skin is non-adherent, in operations upon the patella, skull, or elsewhere, the surgeon should avail himself of the advantages of the prophylactic flap The chief advantage, as I have already said, consists in placing the wound in the deeper parts at a distance from the skin wound, that is, the skin over the deeper wound is not interfered with, but supports the deeper tissues which have been divided, and rapid healing must take place, hence the risk of infection of the deeper parts from impure skin is reduced to a minimum In suturing the skin, silkworm gut is always used The suturing material for the underlying tissues may consist of very fine silk I need not refer to the necessity of having these suture materials perfectly pure The former may be boiled five minutes in alcohol, and the latter kept in an Arnold sterilizer for fifteen minutes

The many advantages of the preliminary flap, recognized by both Horsley and Chiene, are truly of great value, but the scope of general usefulness of this plan of operating is almost without limitation I repeat, that as a prophylactic measure against infection, it possesses advantages that can not be equaled by any other known plan, but as a prophylaxis against unnatural adhesions between the skin and subjacent tissue composing the area of a surgical wound, its value can scarcely be estimated Consider for example, the remote effects of a straight cut through the skin immediately over the breach of a transverse fracture of the patella, where the fragments have been operated upon for the purpose of securing direct fixation of these fragments We see a strong unyielding fibrous union between the two cicatrices The cicatrices becoming amalgamated, the mobility of the patella is lost, and there can be no motion of the patella without dragging the skin with it This circumstance renders motion of the knee joint not only painful, but limited Impairment of function of the entire joint is an unavoidable consequence, and the weight of the person's body can never be supported upon the bended knee, an unfortunate condition that lasts as long as the individual himself, all resulting from defective surgery and not from the actual effects of the original injury, as is too frequently charged

I have formulated the salient ideas of this paper in the following conclusions, viz

1 The value of prophylaxis, in operative surgery as it relates to the formation of the flap and the apposition of homologous tissues, is not apparently fully appreciated by surgeons

2 In order to derive the greatest benefit from the prophylaxis of infection and the unnatural union of tissue, a flap should be so fashioned in all operations as to carry the cicatrix of the skin away from the incision wound through the underlying structures, and each tissue brought in apposition with its own kind

3 The particular point at which an amputation is made is not so important with reference to the adaptability of the stump to prosthetic apparatus, as is the execution of the proper technique of the operation

4 The artificial limb maker of St Louis appears to be able to adjust artificial limbs to a great variety of stumps and at the same time afford the patient every facility of easy and perfect locomotion by the use of any compensating appliance manufactured, provided the operative procedure outlined in this paper has been completely executed

5 The flap should be reflected with subsequent suturing of homologous tiseues in operations upon all parts of the body, under the same general principles as are above described, of amputations including herniotomy, supra pubic cystotomy, celiotomy, gastrotomy, cholecystotomy, nephrotomy, etc

6 If a wound is made and the operation completed in manner outlined, through unbroken skin and not in the vicinity of, or in communication with some mucous canal and suppuration takes place, it indicates that the surgeon has certainly committed some unavoidable error in his methods

7 Drainage is never necessary, following an operation conducted in this way through unbroken skin, and into an area free from infection All such wounds should be tightly closed without drainage, for if the surgeon's aseptic measures are perfect there can be no other necessity for drainage

8 In the light of Muttman's investigations we may draw the inference that the drainage tube exposes the patient at the deep end of the tube to seventy eight different species of cutaneous bacteria, and Welsh has shown clearly that one pyogenic variety is resident in the epidermis normally and occupies such a position as to render it safe from any known means of cutaneous disinfection but is prone to travel down along the sides of a drainage tube, and in this way to cause the wound to suppurate

9 Blood in a wound is not dangerous and where, for the obliteration of cavities therein, the choice lies between a blood clot and the introduction of a drainage tube, which is not only a foreign substance but a prolific cause of infection, it is therefore safer to take the chances with the blood clot

10 Blood furnishes bactericidal properties, and experiments made by three gentlemen of this city who have become justly distinguished in their respective branches (I mean Welsh, Howard and Halstead) show that virulent pyogenic staphylococci injected into blood clots which have been allowed to fill wound cavities did not multiply and occasioned no suppuration Irritation of an aseptic wound should never be employed, and the irritation of such a wound with chemic antiseptics can only be contemplated as a coarse and unscientific practice

11 Iodoform is the ideal antiseptic powder for dusting the line of union of a sutured wound, despite all that has been said against it It must be conceded that no equivalent for iodoform as a prophylaxis in surgery has been found

12 The chief aims which the surgeon should try to achieve are the rapid and undisturbed healing of wounds, the prevention of deformities and the resulting suffering of the patient which cause many to become the victims of evil and vicious habits, the prolongation of human life and usefulness, and, for the attainment of these ends the science of prophylaxis demands prominence and careful consideration in the practice of surgery

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THE MEDICO-LEGAL EXAMINATION OF THE RED STAINS FOUND ON THE CLOTHES OF CHARLES FORD, WITH A PLEA FOR THE USE OF THE CAMERA LUCIDA IN THE MICROSCOPIC EXAMINATION OF BLOOD STAINS

Read before the Denver and Arapahoe County (Colo) Medical Society

BY E R AXTELL, M D

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DENVER COLO

The following is the newspaper account of the tragedy which made my services necessary to the district attorney It is taken from the *Denver Republican* of Sept 16, 1894

"In a dingy brick shack, where scarcely a ray of sunlight ever warms the interior, the dead body of Sadie Smith, a woman about 45 years of age, was found yesterday afternoon about 1 45 o'clock All the evidences of foul play were upon the body, and little room for doubt remains that the unfortunate woman was the victim of a foul and atrocious murder

'The murdered woman had been living for nearly two years with a colored man named Charles Ford They had occupied three rooms in the little brick building in the rear of 1435 12th Street since they became acquainted Their lives since then have, it is said, been an almost continual round of quarrels and some of the people resident in the neighborhood say that the white woman and colored man led an existence full of bitterness and struggle

"Little of the immediate events which led to the terrible deed of yesterday are known The most that can be gleaned of the woman's movements is that she was alive about 10 o'clock yesterday morning, when she was seen by Mrs Kleufer, who lives near by At that hour she went to the fence of Mrs Kleufer's home and piteously asked Mrs K for a nickel She did not give any reason for the request but Mrs Kleufer honored it, thinking it was for some necessity The dead woman had a cut over her right eye which Mrs Kleufer noticed as she handed her the coin Beyond this, she says, she noticed nothing unusual about Mrs Smith Another neighbor said that Mrs Smith passed along the alley way shortly after 10 o'clock with a can in her hand as if she was on an errand for beer This woman avers that Mrs Smith said 'her old man had beaten her again," but further than this observation she did not pass any comment

"Subsequent to this, nothing appears to be known of the woman until her dead body was found by Ford and some of his friends at 1 45 o'clock When found she was lying on the bed clothes in a clean undershirt, and with every indication that the body had been very recently subjected to a washing process Ford did not betray any unusual excitement when confronted with the spectacle, and was loth to express any opinion

' On every side in the illy furnished house was evidence of a deliberate and consistent attempt to obliterate all traces of the killing The floor had been scrubbed, the walls here and there wiped down and the bed rearranged

"The condition of the body when discovered presented a revolting picture The back of the skull was beaten in until a large hollow was formed, which was filled with blood and hair A contused wound was over the right eye, while the face was one discolored piece of flabby flesh The woman's clothes had been removed and an undershirt of cotton texture had been placed on the body An examination of the lower portion of the body disclosed deep scars upon both thighs They were of such character as would be inflicted with some blunt instrument

"The murder was probably committed in the third room, or that which Ford says he occupied The floor of this room was covered with blood Near the bed a large pool, about a foot in diameter had formed In this pool portions of the woman's hair remained Between this room and where the woman was found is the kitchen, which was also utilized as a sitting and dining room Undoubtedly the body was carried from the scene of the murder through the kitchen to the room where it was discovered

Ford's movements after 9 o'clock are not defined At 4 o'clock in the morning he left the house, to work in Mike Harris' saloon at 15th and Wazee Streets His story is that he went to the market to get some meat and returned to his house about 9 o'clock He knocked for admission and called, "Sadie" several times, but could get no reply He put his meat on top of the shanty and went away and came back between 11 30 and 12 o'clock and made inquiries for the woman Not learning anything definite of her, he sought a colored friend named Abe Brown and together they went and broke in the door of the shack His story is that when they broke in the door they found the woman in the condition she was in when found by the officers, to whom Ford went with the information of the murder

"Ford's story does not tally exactly with those of reported witnesses to his movements It is said that he was seen entering the house between 9 30 and 10 o'clock, and that about 10 45 o'clock he left with a bundle of clothes wrapped in a newspaper, outside of which was a coat wound around the whole He was absent about half an hour and came back then without the bundle and with the coat thrown loosely over his right shoulder After this his actions appear to be lost in darkness, as no one has been found who saw him later than 11 30 o'clock When Ford was arrested he had on clothes which he had not worn for any length of time His underclothing had been recently put on and to all questions concerning the location of the clothing he had worn early in the day, he maintained a stolid silence

"From a study of the wounds, the murder was evidently committed with a flat iron weighing nearly two pounds This instrument was found in Ford's room, besmeared with blood and with portions of the woman's hair clinging to it"

This, in detail, was the story as first told Slowly a net of circumstantial evidence was wound around Ford until the presumption was very strong that he was the murderer He persisted in his story, however, and denied that he had killed the woman His old clothes, the ones which witnesses stated he had on in the morning when he went to work were found in a distant out-house Here and there over the clothes were a number of red areas and stains which looked like blood When questioned about it he said that it might be blood, that he had been hunting a few days before and that he had carried his game across his left shoulder He was asked as to the nature of the game and he replied "Oh, some rabbits, a few birds and a black snake" He stoutly denied that he had worn his old clothes within a recent date

On his shoes, which he wore when arrested, there were a few spots of red staining When asked about this he said it came from a nose bleed which he had had that morning soon after getting up Later it was proved that he had had his shoes blackened at about 9 o'clock of the morning the murder was committed, yet the staining was clear and outside of the blacking

In October, 1894, District Attorney Robert W. Steele had worked up a most astounding array of circumstantial facts which tightened about Ford very closely Finding that Ford had engaged counsel and seemed to be ready to make a determined fight, he asked me to examine the blood stains on Ford's clothing and on his shoes and to determine, if possible whether they were of human blood The following articles were accordingly put by him into my possession, Oct 22, 1894

One coat labeled, "worn by Charles Ford in the early morning of Sept 15, 1894"

Shirt, pants and vest, labeled, "worn by Charles Ford in the early morning of Sept 15, 1894"

One sombrero, without label, but understood to be the hat which Ford had on when arrested

One pair men's shoes, labeled, "worn by Charles Ford, Sept 15, 1894"

With these articles were a great number of odds and ends such as buckets, brushes, pillow cases, flat irons, handkerchiefs and a whip stock—all blood stained and all appropriately labeled After the examination of the coat as labeled above, I dictated the following "coat old and ragged, a faded blue check. Nothing like a blood stain is found on inner facing or lining or on sleeve lining There are a number of grease spots on the right side but nothing resembling a blood stain On the left sleeve, on its outer side, from the elbow down there are a great number of small and large areas of red staining, which are prominent to the naked eye and which look as though they had been brushed over with a cloth" On applying the chemic test for blood, this gave me a brilliant reaction Of this test I shall speak later Of the vest, shirt and pants, the following notes were made "The vest shows no blood, neither on inner nor on outer side The shirt is a flannel one with no blood on it A few stains found on inside of the wrist of the right sleeve prove to be not blood on chemical examination The pants are badly worn, especially in the seat They are patched in a number of places, are very dusty and are very much wrinkled as though recently washed On the right leg of the pants, at the bottom on the outer side posteriorly are five areas of reddish staining, varying in size from one-fourth to one inch in diameter, which to the naked eye give but slight appearance of blood, but by chemic test give blood reaction Other obscure stains on front of this leg gave blood reaction to a slight extent The left leg presents a number of areas, some very large, which present all appearances of blood stains and which when tested give the blood reaction "

"The sombrero, of a dull gray color, is old, worn and torn On the crown are eight or ten small spots and one large one, all of which present appearances of blood and all of which give blood reaction to the chemic test On the upper surface of the brim there is one streak of blood, one inch in length and one quarter of an inch in width This is a very prominent blood streak The right shoe shows a thin brownish film over the outer side of the upper for a distance of two inches This film is external to the blacking and can be scraped off without disturbing the blacking On the instep of the sole of this shoe there is a small blood stain On the left shoe, on the inner side of the upper, there is seen a small brownish film, external to the blacking"

My first examination was thus purely one of general appearance,plus the use of the chemic test In my examination of the general appearance, I used a small magnifying glass constantly The chemic test for blood, for any kind of blood is a simple one but of great value because of its accuracy It is called the guaiacum test for blood When a red substance is thought to be blood, a bit of it can be moistened, if necessary, by distilled water and after it is gotten in solution, placed on a piece of white blotting paper On the stain thus formed a drop of the tincture of guaiacum is added This tincture should be fresh and made from the inner portion of the pearls of the gum If the stain turns blue with no other treatment it is not blood, but if it contains blood it also contains starch, a salt of iron or some other foreign substance If no change follows the application of the guaiacum, drop upon it a little watery solution of peroxid of hydrogen, when if it is blood, it will quickly assume a beautiful sapphire blue color By this test I have detected a particle of blood which was scarcely visible to the naked eye It has a few fallacies which must be spoken of Never must the guaiacum and peroxid of hydrogen be mixed before application Always apply the tincture of guaiacum first and add the peroxid afterward Any acid containing iron vitiates the guaiacum test Some kinds of paper sized with alum contain iron and turn blue with guaiacum Gluten and starch turns guaiacum blue without peroxid If no blue color is produced by adding tincture of guaiacum and if then hydrogen dioxid is added and a blue color is produced quickly the substance examined is almost certainly blood

In my examination of the stains in this case, I either scraped a small bit away and got it in solution, or I added to the stain a bit of water and later a drop of tincture of guaiacum, and later still a drop of hydrogen peroxid Then by pressing white paper against it, paper free from alum and iron, I got the blue color from the stain, printed on the paper

The chemic test told me positively that I had blood on the clothes examined But I followed up this test by getting a quantity of the blood stain in solution and boiling it in a test tube Heating caused a deposit of gray flocculi, a mixture of fibrin and albumin This flocculi was readily dissolved by liquor potassæ, while chlorin, hydrochloric acid or nitric acid caused it to reappear This is characteristic of a solution of blood

Another property that my solution had was that a small quantity of liquor ammonia did not change its color, but that heat did There is no other red solution that will present such a characteristic beside blood

Lastly, I obtained from the stain, the hæmin crystals There are easily obtained by digesting for twenty-four hours the scraping of a stain in glacial acetic acid to which has been added a trace of chlorid of sodium By allowing this red acid solution to evaporate slowly, a great number of crystals appear in the form of rhomboidal plates of a yellowish red or brown color In a systematic examination of blood, my next one should have been a spectrum analysis of it, but I did not own a micro spectroscope and as yet have not obtained one

I proceeded next to the microscopic examination My first consideration in this examination was how best to bring back the dry blood stains to a solution in which the corpuscles would regain their usual size Many formulæs were found, for all of which it was asserted that the solution would not increase nor decrease the dimensions of dry blood corpuscles beyond their normal size I made use of five fluids

Robin's distilled water with chlorid of sodium, 1 per cent and bichlorid of mercury one half of 1 per cent

Hayem distilled water with sulphate of sodium, 2½ per cent , pure salt ½ per cent and bichlorid of mercury ¼ per cent

Richardson a three-fourths of 1 per cent chlorid of sodium solution

Sherman a 33 per cent solution of caustic potash

Glycerin and water mixed in such proportions as to give a specific gravity of 1028 After an extended trial of the various solutions, I discarded all but the last two With these, I obtained corpuscles perfectly restored and presenting all the appearance of the fresh living cell The caustic potash solution gave me quick results and fine corpuscles,but after a short time the field would have a multitude of small air bubbles through it, so that I could not study the fields as I wished I do not know why these bubbles appeared Prof J A Sewall, in a medico-legal case in which he investigated some blood stains, found the same objection to its use

The glycerin solution was slow in getting the stain in solution, but beautiful cells were found after a time It kept some fields in excellent shape for several days Usually I added some carbolic acid to the water with which I made my glycerin solution

In making a cover glass preparation for study, I took a bit of the blood stain from the clothes by gently scraping the stain with a tracing needle and receiving the dust stain upon a glass slide I then placed a large cover glass over it and introduced by capillary attraction the fluid destined to separate the corpuscles and restore them to their normal condition

I first studied the restored corpuscles to get their general characteristics - I found that they were all circular, that all of the corpuscles which appeared fresh were bi-concave disks, that they had a fairly uniform size and a faint yellowish or brownish color No nucleus was apparent in any cell and in size the corpuscles with a medium power, approached closely that of human blood

After examining many different stains, I could positively say that not a single oval nor elliptical corpuscle was present and that not a nucleated cell was to be found I could now rule out from consideration that part of Ford's *statement* in which he asserted that these blood stains were stains from "some birds and a snake," as the red corpuscles of both birds and snakes are elliptical, generally large, with a nucleus, while those of man and all mammalia, except the camel tribe, are circular and small

His statement that the stain might be rabbit's blood was the one that caused me to earn my fee I had now to measure the corpuscles found in the stain and to compare this measurement with that of human blood The diameter of the human red blood corpuscle is given by Gulliver, Wormley and Treadwell as 1–3200 of an inch, and that of the rabbit by Gulliver at 1–3607, by Wormley at 1–3653, by Treadwell at 1–3981 of an inch Assuming that 1–3600 and 1–3700 of an inch is the ordinary range of the size of a rabbit's corpuscle, we would have between such a corpuscle and that of the human blood a difference of fully 1–450 of an inch With a medium power such a difference could not be easily detected, but with a high power we could magnify the difference, as it were, and thus could easily detect it This is the secret in the comparison of blood discs

In the West we have a rabbit that is not common in the East I refer to the long-eared jack-rabbit I could find no measurement of its corpuscle The defense might insist that the blood stain was that of a jack-rabbit, so it had to be considered

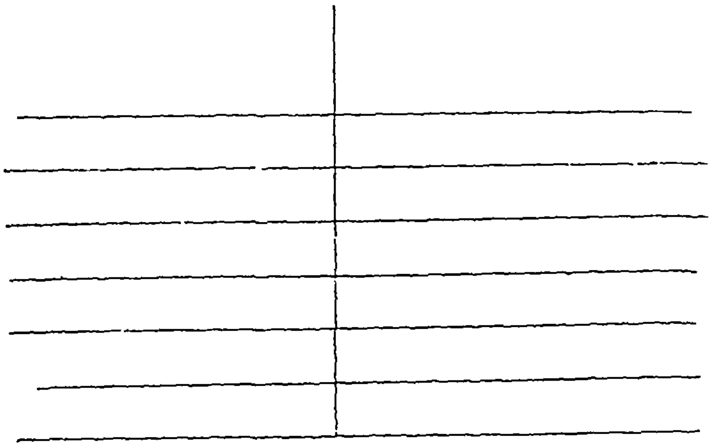
For the sake of comparison, I proceeded next to make permanent mounts of blood I made a mount of my own blood and in a similar manner made mounts of the blood of the cotton-tail and jack-rabbit As my working time was short, I was not able to procure live rabbits but bought rabbits which had been killed a few hours previous and took the blood examined, from the cavities of the heart My method of making these permanent mounts was as follows films of the blood were spread on cover-glasses in the usual way, and placed while yet moist in a saturated watery solution of mercuric bichlorid for half an hour At the end of this time the solution was washed away with a ¾ per cent solution of sodium chlorid The film was next hardened by immersion for a few minutes in methylated spirit and subsequently in absolute alcohol Staining with eosine and hematoxylon was then performed in the usual manner The nuclei of the leucocytes were stained by the logwood, while the red corpuscles were stained entire by the eosine By this method I made some beautiful mounts which are as good to day as they were when first made

I had now gotten to the place where the measurement of the corpuscles of my permanent mounts and their comparison with the corpuscles found on the clothes was all that remained, provided that I could be sure that my permanent mounts lost nothing by the method employed, and that my solutions employed for restoring the blood stains did all that they were supposed to The method of making my permanent mounts was first recommended by Dr Muir in the *Journal of Anatomy* and he asserted that the corpuscles retained their exact shape and size I measured a number of my corpuscles, both in a fresh state and in my permanent mount and they showed no variation, so I could eliminate the first doubt As regards the second, I found that by taking a known blood stain, that with my solutions I could restore the corpuscles in it to the exact size that they presented in a fresh state

The next question was how best to present the matter of measurement of blood corpuscles to an ordinary jury I decided upon the use of the camera lucida I was largely guided in this matter by the following extract taken from Carpenter, "The Microscope and Its Revelations," Seventh Edition, page 226

> "It is of the utmost importance to be able with accuracy, and with as much simplicity as possible, to measure the objects or parts of objects that are visible to us through the microscope The simplest mode of doing this is to project the magnified image of the object by any of the methods described under 'Camera Lucida and Drawing' If we carefully trace an outline of the image, and then, without disturbing any of the arrangements, remove the object from the stage, and replace it with a 'stage micrometer,' which is simply a slip of thin glass ruled to any desired scale, such as tenths, hundredths, thousandths of an inch and upward Trace now the projected image of this upon the same paper and the means are at once before us for making a comparison between the object and a *known* scale, both being magnified to the same extent The amount of magnification in no way affects the problem Thus if the drawn picture of a certain object exactly fills the interval between the drawing representing the 01 inch, the object measures the 01 inch, and whether we are employing a magnifying power of a hundred or a thousand diameters is not a factor that enters into our determination of the size of the object
>
> "In favor of this method of micro measurement, it will be noted 1, that no extra apparatus is required, 2, that it is extremely simple, and 3, that it is accurate"

I had at my command an Abbe's camera lucida and with a Fasoldt stage micrometer graduated in 1–5000 of an inch, I projected upon paper this scale, using my highest power



The combination of power was as follows Leitz's Ia stand, oil immersion objective 1-12, No v eyepiece, draw tube at 160 m m

Having this scale carefully and accurately drawn and proved by several careful observers, it was an easy matter to make any number of such scales by simple measurement and the use of my drawing instruments Each division of the scale represented 1–5000 of an inch as projected by my combination By dividing each division up into fifths, I was able to measure 1–25000 of an inch, and not only do it accurately but easily, and demonstrate it to any one

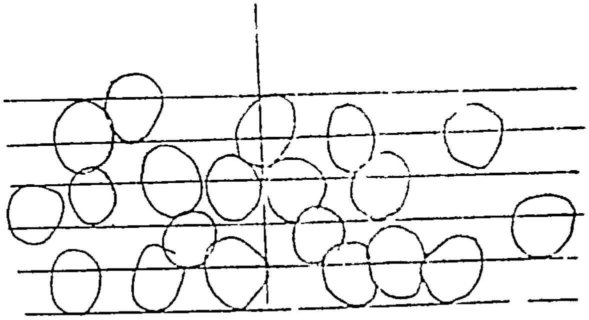
I now measured twenty corpuscles of the permanent mount of my own blood The following shows these corpuscles in the scale

In dividing up the scale and by a careful computation, I found the average diameter of these corpuscles to be 1–3175 of an inch, a little less than the measurement usually given

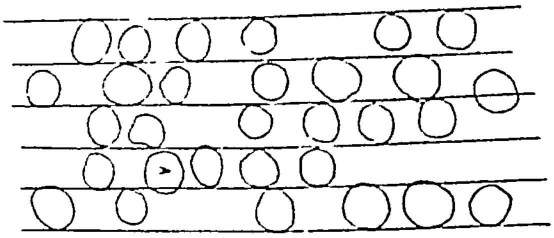
Next I measured the cells found in the blood of the jack-rabbit These cells proved to be very small and, as far as I have been able to ascertain, have not been previously measured Diagram No 3 shows twenty of these corpuscles A careful computation of the average size of one hundred of these corpuscles by the camera lucida method gave a diameter of 1-6250 of an inch

My next step was the measurement of the blood cells found in the blood of the cotton tail Diagram No 4 shows by comparison the size of these cells as compared with those of human blood and blood from the jack rabbit

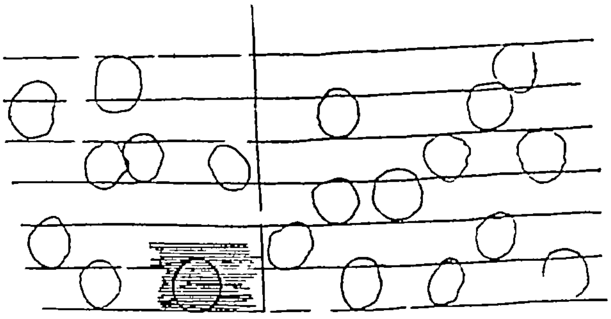
On diagram No 4 I demonstrate the method of measuring up to 1-70000 of an inch I do this by simply dividing my 1-5000 scale up into fourteen parts The corpuscle on this scale occupies eighteen of these parts It is then 18-70000 of an inch in diameter or 1-3888 of an inch This corresponds closely to the measurement given by Treadwell This is but the measurement of one corpuscle My permanent mount of cotton-tail's blood was not the success that my other mounts had been, as many of the corpuscles appeared to shrink by the treatment given them Having now accurate diagrams of human blood and of rabbit's blood I was ready for the examination of the blood stains These I prepared as has been detailed



No 2—Human blood



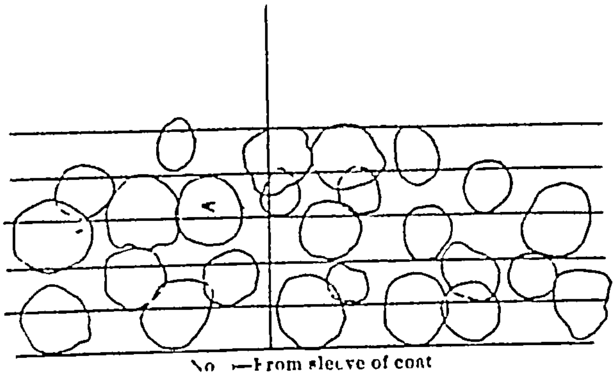
No 3—Fresh jack rabbit's blood



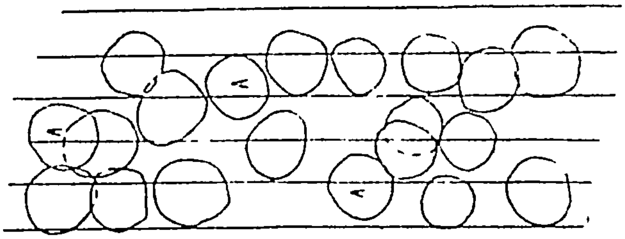
No 4—Fresh cotton tail s blood

Diagram No 5 shows the outline of the restored corpuscles as taken from the sleeve of Ford's coat Twenty five corpuscles are pictured of which eighteen correspond in size and measurement with human blood, seven are below this size

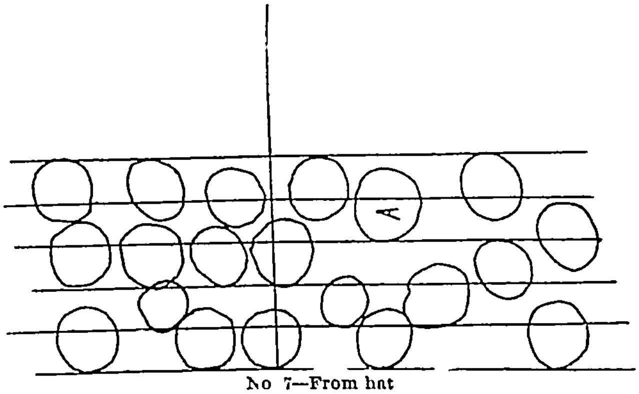
It is surprising what an array of odds and ends can be found in a scraping of a blood stain bits of cloth-fiber, pieces of fibrin, masses of stain, granular *debris*, broken and twisted cells, bacteria, can be found and must be differentiated from the blood corpuscles Unless one becomes very familiar with this subject, it is apt to be a perplexing study Any round flat mass, though it may present irregularities is apt to be a blood disc If it presents some straw or brown color and a marked different appearance on slight focusing, it is very probably a blood disc If when the cover glass is touched with a teasing needle it rolls over and you can get another view of it, you can often be absolutely sure that the mass is a biconcave disc, a red blood corpuscle Frequently you will find a cell that is just as clear as a fresh one can be Such cells should be carefully drawn and designated Cells A in the accompanying diagrams are such cells



No —From sleeve of coat



No 6—From trousers



No 7—From hat

Diagram No 6 shows the blood cells from the stains on the leg of Ford's trousers For some reason these cells were the most perfect ones I found Any tyro could tell that they were bi concave discs and any one could have drawn their outline as easily as I did There is hardly a cell shown that has not the outline of a human red blood disc

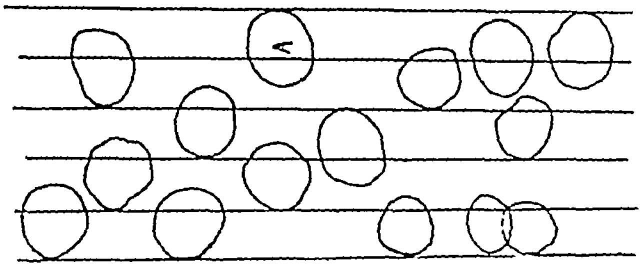
Diagrams Nos 7, 8 and 9 show the corpuscles found in the stains of the hat, shoe and whipstock, with which he was supposed to have killed the woman

As can be seen, most of them are of the diameter of the human red blood corpuscles, and but few approach in size those of the rabbit

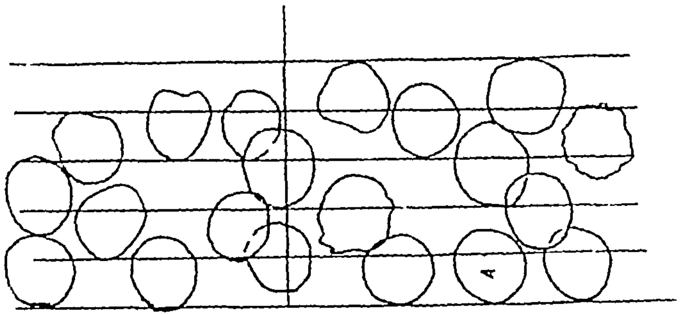
Having my exhibit thus arranged, I reported to the district attorney that the stains found on the clothes were blood stains, that the corpuscles found in those stains were not from the blood of a fish, reptile or bird, that they belonged to the blood of one of the class mammalia and corresponded very closely with those of human blood, and that they did not belong to the blood of the rabbit—neither the cottontail nor the jack

I was summoned to appear before the court two days later I intended demonstrating my method of work to the jury and showing them in detail how my results were obtained When ready to visit the court I received word that my services would not be necessary, as Ford had pleaded guilty and that he had been sentenced by the judge to the penitentiary for life

Thus my results received quick proof of their accuracy and reliability By the simplest method known to the microscopist for the measurement of objects, I had settled a knotty problem, and had brought into a case of circumstantial evidence some positive evidence, which the prosecution needed



No 8—Blood from shoe



No 9—Blood from whipstock

The method of micro measurement by the camera lucida has certainly much to commend it in such cases as the one presented It brings to the jury's eye your own observations, and it throws on them some of the responsibility which by other methods you must share alone

It puts on paper for subsequent reference more than simple figures This makes its value in work of this kind very pronounced In the case just presented, the diagrams of comparison speak stronger than any array of figures It can be used with accuracy by those who have had no previous experience in work of this kind, and by those who have not and can not obtain the expensive screw micrometer eyepiece

The method and apparatus is simple and the calculation of the size of objects is easy To get the diameter of a corpuscle in any direction, one has only to reverse the paper bearing the reading scale This scale can be either in millimeters or in inches—according to the stage micrometer in use With it, one does not have to designate whether his measurement was taken from the outside or inside of the dark border of the corpuscle A faint light is used, a flat image is thrown in every case and the corpuscle is drawn without shadowy borders

The method employed in this case is certainly one to be commended in these examinations

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THE TREATMENT OF SMALLPOX PRINCIPALLY BY MEANS OF THE INTERNAL USE OF THE TINCTURE OF THE CHLORID OF IRON

BY BEDFORD BROWN, M D

ALEXANDRIA VA

My personal experience in the observation and treatment of variola comprises about one hundred and fifty cases About sixty of these were seen in the Confederate Army during the late war The remainder were seen in an epidemic soon after the close of the war, and in an epidemic in this city about the year 1871 Of these cases, at least one third were of the confluent form The remainder were of the discrete type Only about one-fourth of these cases had been vaccinated In all those vaccinated the type was mild, what is known as varioloid

In the year 1863, smallpox appeared in the Confederate Army in the department of North Carolina, extending from Petersburg, Va, to Wilmington, N C, and threatened to assume dangerous proportions, as an epidemic As medical director of the department at that time, I received from the General commanding G W Smith, plenary powers to apply every means possible for its extinction A universal system of vaccination was inaugurated throughout the department and re vaccination in every soldier, when the epidemic was promptly arrested This much can be said as evidence in behalf of the efficiency of vaccination as a prophylaxis of smallpox

Of the ninety cases seen after the close of the war one was pregnant, a married woman with three children, all of whom had the disease This woman was at about the eighth month of pregnancy when attacked and miscarried of a dead fetus when the secondary fever began The fetus had incipient variolus eruptions on its body The mother passed through the most severe case of confluent smallpox that I ever saw and finally recovered She and her three children had never been vaccinated but all recovered In the case of the mother, for the first three or four days after confinement there was a distinct effort on the part of the breasts at the secretion of milk, but it was soon suppressed On the contrary, the lochial discharge continued for a period of two weeks in a normal condition

Influence of Season on the Type of Smallpox—I have seen cases of smallpox in all seasons of the year In the dead of winter when the earth was covered with snow, and the temperature below zero, and again in the soft season of spring, in the torrid heat of July and in autumn and winter I am really not aware that the type is affected in any way by these influences I have seen confluent cases in the intense cold of January, and in July when the temperature was 96 degrees, pass through the stages safely I have attended smallpox in both country and city practice, and I am constrained to believe that in the aggregate the type of smallpox in the unvaccinated among country residents is milder than in city denizens. That is, there is a decidedly greater proportion of discrete cases among the former than the latter.

In the epidemic alluded to, which occurred in the spring just after the close of the war, in a southern village of some twelve hundred population, smallpox appeared in May, was contracted by the negro population just then liberated and the infection was spread throughout the surrounding country. There were hundreds of cases of the disease among this population, and probably not one in a hundred had ever been vaccinated. Yet not one third of the cases were confluent, and a fatal termination was a rare occurrence.

This fact would indicate that the type of smallpox is favorably modified by pure fresh country air, free from overcrowding and the septic influences of a city atmosphere.

Inoculation with Smallpox Virus.—During this epidemic there were eight or ten persons who had been exposed to the infection of smallpox accidentally, several days before they discovered their danger. Neither of these persons had been vaccinated and at that time it was too late for vaccination to afford them protection against infection. As they were very solicitous to be saved from an attack of smallpox I determined to inoculate them with genuine smallpox virus taken direct from the pustule. They all assembled at the house of the smallpox cases and were inoculated directly from the pustules. They all did remarkably well. Every case proved to be a mild type of the discrete form.

Treatment.—The mild discrete form of smallpox needs but little treatment except cleanliness and careful nursing. An occasional aperient, soap and water to the inflamed skin and proper diet.

On the contrary, the confluent and more malignant forms of the disease, in my experience require active and energetic treatment from an early period, and the treatment in this form may be divided into the local and general, the antiseptic and sustaining. The pathologic condition of the system in the confluent variety would appear to be very analogous to that in which there is an enormous internal abscess filled with infectious matter which is constantly being absorbed into the circulation, causing genuine septicemia or pyemia.

When pus begins to form in the pustules of confluent smallpox, the secondary fever begins and not before. While the pustule contains pus, the primary fever which produces the pustules, or rather accompanies its development, when the pustule is fully developed suddenly subsides, and then ensues a period of apyrexia or rest. But when pus begins to collect, the whole phase of the case is promptly changed, and there are developed symptoms in rapid succession of septicemia or pyemia. This secondary fever must be accepted as a measure of the extent of blood poisoning.

The entire surface in confluent smallpox is denuded of its cuticle and is surrounded with a layer of poisonous pus, is literally bathed in pus for days, from which there is constant absorption of poisonous material.

From my earliest acquaintance with this disease, I was impressed with the fact that to counteract this condition of blood poisoning, there were two classes of remedial agents necessary, the one sustaining, the other antiseptic.

General Treatment.—I do not know any better general remedy to counteract the effects of septicemia or pyemia than the old-fashioned tincture of the chlorid of iron. I so regarded it more than thirty years ago, when I witnessed the first cases of this disease, and then resorted to it freely. I published soon after the war, my experience with it in an article in the *American Journal of Medical Sciences*, and I have used the remedy in every case of confluent smallpox since, with the best results.

I begin the remedy in every case of the confluent form, from an early stage of the disease, previous to the appearance of the septicemic or secondary fever, and maintain it to the end. Twenty drops of the agent in a little water and glycerin is given every three hours. In addition to this, about 10 grains of quinin are given a day. In all bad cases, I give stimulants in the form of milk punch or egg-nog, and nourishing broths.

Local or Antiseptic Treatment.—My experience with antiseptic treatment convinces me that its value can not be overestimated. This can only be applied locally to the diseased surface.

In my first cases, I used chlorin water, the liq. chlori., diluted with water. The entire surface was bathed every three or four hours. The effect of this antiseptic bath administered at short intervals was excellent. Every pustule on the face should be split open with two incisions crossing each other, with a delicate knife, the pus gently pressed out and the cavities subjected to an antiseptic, by bathing with either the liq. chlori., or a solution of permanganate of potash, two grains to the ounce.

This local antiseptic treatment will go far to prevent pitting. The case of the woman who aborted with confluent smallpox, alluded to above, was subjected to this chlorin treatment and she escaped without a pit. In addition to the chlorin and permanganate treatment, I should be tempted, now, in cases of this kind, as a further antiseptic measure, to resort to an ointment composed of ichthyol, aristol and europhen, to be applied over the entire surface after bathing with chlorin water. The mortality under this practice has been exceedingly small, not more than 3 per cent.

Believing as I do, that all the indications point to the secondary stage of smallpox as the period of danger, and that the danger of that stage lies in the presence of an enormous quantity of infectious pus being constantly absorbed, and acting on the blood of the patient as an infectious poison, I have, acting on this principle always treated smallpox as I would any other case of septicemia or pyemia arising from infectious causes, and the results have been satisfactory. The pustules on the skin constitute the local lesion which furnishes the septic poison, and while we sustain the vital powers of the general system, we must at the same time, be busily at work in disinfecting the local lesions, the source of the poison.

SERUM-THERAPY.—STATISTICS UPON THE USE OF THE DIPHTHERIA ANTITOXIN.

BY G. C. CRANDALL, B.S., M.D.
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In following the abundant literature which has appeared during the past year upon *serum-therapy*, we find that the interest of the profession has been gradually aroused, and with the many investigators in the field we may trust that the question will be fairly examined with every means and method at our command

Before the discovery of the germ causation of disease, it was known that an attack of certain diseases effected a longer or shorter natural immunity against those diseases, and in more recent times since the germs of certain diseases have been isolated and cultivated, those best acquainted with theoretical and practical bacteriology have entertained favorable views concerning the possibility of artificially producing immunity against the diseases caused by certain germs

In some diseases immunity can be established by the use of a modified, less virulent form of the germ, but this is not sufficient, more desirable is an immunity and therapeutic action which can be effected without the introduction into the human system of even the modified germ For these purposes various investigators are experimenting with the so-called toxins, antitoxins and nucleins

The present knowledge of physiologic chemistry is inadequate to fully explain the physiologic origin and action of these new elements, but it suggests the way, and many are now diligently searching for such anti-disease remedies, which may prove to be more worthy the name of specifics than any so-called drugs of the pharmacopœia

The first of these remedies which has gained at least a temporary recognition by the profession, is Behring's diphtheria antitoxin Having recently had access to the Library of the Royal College of Surgeons of England, I gathered as fully as possible, statistics upon the use of the anti-diphtheritic serum

The following table includes most of the serum treated cases which have been reported The results of some of the most extensive observations are given separately

		No Cases treated with serum	Mortality in per cent	Previous Mortality in per cent
Vierordt	Heidelberg	55	14 6	58 0
Ganghofner	Prague	110	12 7	50 0
Wiederhofer	Vienna	100	25 3	42 8
Kossel	Berlin	300	16 7	34 7
Baginsky (quoted by Virchow)	Berlin	303	13 2	47 8
Sonnenburg	Berlin	107	20 6	27 6
Aronson	Berlin	100	14 0	37 0
Ranke	Munich	85	18 8	48 5
Saltmann	Leipsic	122	18 0	
Risel	Halle	114	8 0	
Roux Martin and Challlon	Paris	300	26 0	51 7
Lebreton	Paris	258	12 0	
Moizard	Paris	231	14 7	50 0
Washbourn, Goodall, Card and others	London	105	18 6	31 1
White	New York	32	25 0	42 7
Withington	Boston	80	16 0	45 0
Total number of cases		2,632		
Average mortality per cent			16 8	
Previous average mortality per cent				42 0
Collective report of other observers in different countries		4 022	17 1	

The above table shows a much lower mortality than has ever been generally attainable under former methods of treatment Those who have used the remedy most extensively, report that the incidental action of the serum seems to be due to avoidable impurities and to the idiosyncrasy of the patient, also that paralysis, albuminuria, lung complications and necessities for operative procedures occur less frequently than under previous methods

The relatively inexact method of determining the strength of the serum has been a barrier in the way of exact dosage If the chemist can separate the antitoxin element in a stable form, the dosage may be made more accurate, the administration simplified, and incidental action may be less frequently observed

With the experience of the past year as a guide, the investigators hope to be able to show greater evidences of the value of serum-therapy At the Pasteur Institute in Paris, experiments analogous to those with diphtheria, are being made with the virulent streptococci which cause certain severe, acute, inflammatory, suppurative conditions A horse has been rendered immune against virulent cultures of the streptococci, and its serum is being used with suitable patients

Dr Paquin of St Louis, is meeting with favorable results in his systematic experiments with tubercular antitoxin, and we shall anxiously await further reports upon his work

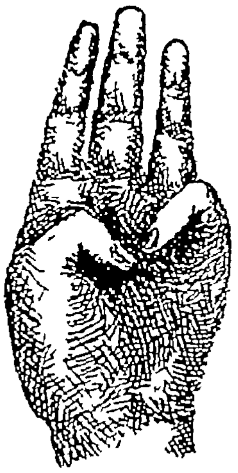
Whatever may be our prejudices for or against serum-therapy, we should assist or at least encourage the investigators, and patiently await the development of such facts as will prove the question at issue

PROFESSOR SENN'S NOVEL PLASTIC REPAIR OF CONTRACTURE

BY MAJOR A C GIRARD, SURGEON U S ARMY

FT SHERIDAN, ILL

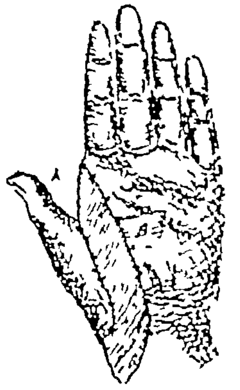
The following ingenious method devised by Professor Senn in his clinic at Rush Medical College, to replace scar tissue by sound skin, is well worthy of general notice Without going into the history of operations tending to repair defects I will at once proceed to a description of the case



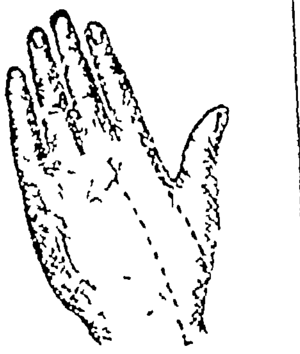
Contractured fingers

A child about 3 years old had been burned in the left hand some four months before, to such a degree that the cicatrization bound down and flexed the thumb and little finger in an absolutely useless and immovable position The little finger was liberated by excision of the tendinous bands with comparative facility To do the same with the thumb would leave a large raw surface A flap from the anterior chest wall with fixation of the arm, was not feasible, owing to the tender age and consequent lack of co-operation of the child A flap from the forearm twisted and turned into the palm of the hand, would probably become necrotic and leave matters in a worse shape Skin grafting would not prevent contracture, and skin transplantation could not be thought of, on account of the lessened vitality of the tissues adjoining the defect

After much deliberation, Professor Senn determined on a novel method by dissecting off a flap from the dorsum of the hand, adjoining the thumb, leaving both ends of the flap attached, and slipping it over the thumb into the place vacated by the excised scar



A—Volar side with flap in place
B—Grafted triangle



Dorsal side with outlines of flap

An incision was started from the base of the first finger, carried obliquely upward to near the base of the metacarpal of the thumb, the second incision was parallel to this, about one inch toward the middle finger The flap was carefully dissected off, preserving the subcutaneous veins The doubt as to the possibility of slipping it over the bent thumb was soon removed by the ease with which it was made to assume its new place, where it was anchored by two rows of interrupted sutures A small triangular defect between the flap and the base of the little finger was filled by Thiersch's grafts The dorsal wound was easily united by interrupted sutures and the usual splint and dressings applied

At the clinic, a week later, the child was exhibited, the flap had united *per primam*, the grafts adhered, the dorsal wound was closed and the thumb in its proper place The prospect of permanent cure of the contracture was assured

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ENEMATA OF WHITES OF EGGS MEMORANDUM

BY JOHN ASHBURTON CUTTER, M D

NEW YORK

Albumen of eggs is valuable to feed patients when other forms of nourishment can not be taken or to reinforce other nourishment I have known patients to take the whites of eighteen eggs in one day with evident advantage, in some cases the result appearing almost life saving

Exhibition by the mouth is made in three ways 1, raw, 2, raw with milk, 3, dropped in boiling water and slightly cooked

Enemata of uncooked whites I have lately used with decided benefit Administration by a Davidson hard rubber syringe No 494, one ounce Eggs vary in size and weight and should be sold by weight, the albumen of an egg varies in bulk from one half to one ounce as eggs run

Drugs can be administered with the raw albumen, sometimes a little laudanum is needed, but rarely, to quiet bowel Patients state that an enema relieves the faint gone feeling in stomach, and such relief is longer than when the whites are administered by the stomach

Equitable Building New York

PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI)

BY BYRON ROBINSON

PROFESSOR OF GYNECOLOGY POST GRADUATE SCHOOL
CHICAGO

(Continued from page 110)

The splenic artery perhaps throws more light on the disposition of the mesogaster than do the gastric and hepatic arteries The splenic artery arises from the celiac axis and passes at first, slightly downward and then toward the left along the upper border of the pancreas It is a large spiral artery, but does not project the peritoneum into a very prominent fold, yet the outline of the fold is especially prominent in those animals in which the omentum and transverse colon do not have contact relations, especially at the left end The prominent feature of the splenic artery in regard to the mesogaster is that the artery in its course lies to the left of the right blade of the mesogaster until it suddenly turns upward to gain access to the space between the blades of the ligamentum gastro-lienalis, but the other equally important feature is that the splenic artery for all its straight horizontal course lies against the posterior abdominal wall, i e, it does not lie against the left blade of the mesogaster, for that blade has by developmental processes been re adjusted, displaced, or as some would argue, coalesced In the process by which the liver forced the stomach to the left and downward and gave origin to the elongated mesogaster and lesser omental bag, the left blade of the mesogaster has been displaced to the left, hence the left and posterior surface of the splenic artery is without a serous cavity for the most of its trunk, or until it turns upward into the gastro splenic ligament The splenic artery being devoid of its serous covering for the length of the chief trunk, on the left side reveals

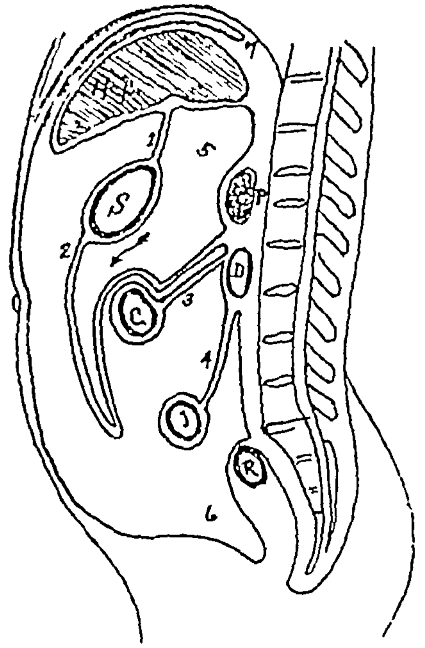

Fig 22 is copied from the excellent anatomy of Prof Gegenbaur (1881 German edition) It is chiefly to represent the views of an eminent comparative anatomist as regards the transverse colon and omentum It may be observed that his idea is that of coalescence, for his mesocolon transversum consists of four layers (No 3) 1 gastro hepatic omentum 5 lesser omental cavity p pancreas 3, mesocolon transversum 4 mesenterium d, duodenum c, colon 2 anterior layers of great omentum r, rectum 6, great omental cavity 7, reflections of coronary ligament j intestine However, Gegenbaur mentions in his text book the displacement theory without committing himself to it a developmental process in the original process of formation of the mesogastrium posticum or great omentum This bearing of the splenic artery gives an actual demonstration that the left blade of the mesogaster is displaced to the left by *some force* *In fact*, the left blade is displaced several inches or more to the left of its original insertion

The process of re-adjustment, displacement (or even coalescence) is in accord with the previous assertion that serous cavities and their walls are nowhere *primary*, *but always a secondary* process which is very active up to the sixth fetal month Now, as the developmental process is the only key to the adult condition, we can only expect to understand the origin and formation of the great omentum by sticking close to the evolutionary processes in animals Man's embryo passes through all lower mammalian stages, but the transitions are so rapid and complicated that it is *almost impossible* with limited material to establish consecutive and logical facts in regard to such a delicate structure as the great omentum However, in animals we find the evolutionary stages permanent in some animals, not reached in others and in still a few stages just approaching that of man So that the thread of development can be demonstrated by investigations in embryologic and mammalian life, far below man in structure

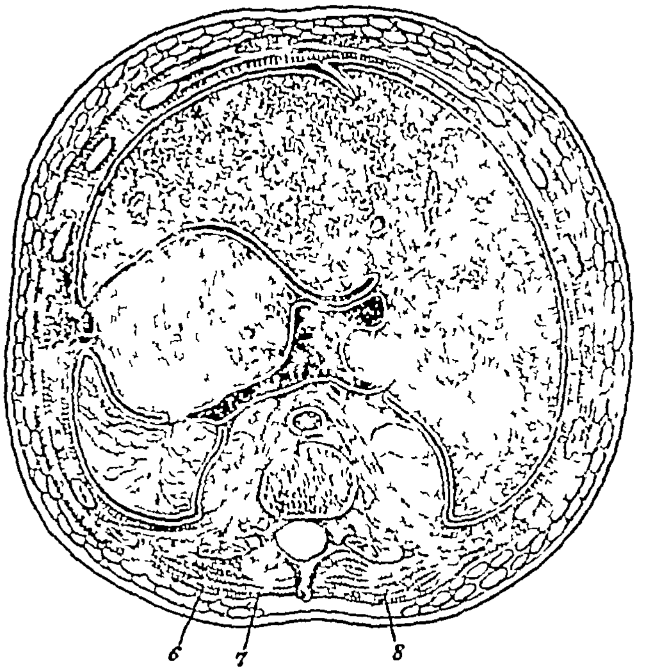

Fig 25 (after Luschka 1863) is a beautiful and accurate transverse cut at the level of the twelfth dorsal vertebra This figure corresponds more exactly with my own dissections as regards the splenic relations of the peritoneum than any known to me 1 liver 2 stomach 3 spleen 4 kidney 5, adrenal 6 diaphragm 7, thoracic aorta 8 inferior vena cava 9 cavity of the lesser omentum Observe that there are two points where the spleen is uncovered by peritoneum, i e , a strip at its hilus and a strip at its posterior border e g , near the adrenal at No 5 *This elegant and natural cut was also adopted by Dr Bochdaleck, Jr in 1867 as a natural model*

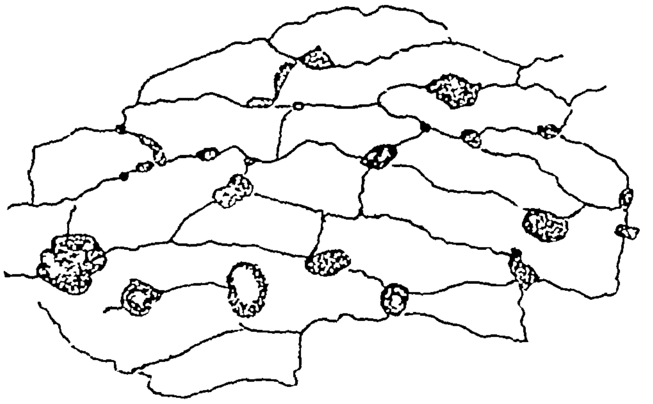

Fig 26 (after Toldt 1879) is introduced to show the shape of the epithelium which covers the surfaces of the mesentery It is taken *from the surface of the great omentum of a six weeks old child* It is magnified by Hartnack's system, xi ocul 8

In one series of fifty autopsies, I recorded the position of the omentum in regard to the cecum and found the omentum covered the cecum in about eight cases This is significant, as the omentum is a highly important organ in an inflammatory peritonitic district like the appendicular The omentum when it lies out of its normal position is apt to be rolled up behind the transverse colon This, I think, is due to the emptying and filling of the colon with gas and feces It may also be due to an occasional sudden filling and emptying of the small intestine with gas by acute indigestion, from disproportionate secretions *and consequent fermentation* *In some autopsies* it was evident that the great omentum *had* been rolled up behind the transverse colon for some time, for it was fastened there by peritonitic bands Also it seemed to become rolled up behind the colon by a slow gradual process It is not a suddenly acquired position The *omentum* was found rolled up over the colon some six to eight times in one hundred cases The chief rolling is accomplished near the flexura coli lienalis, but in one case in a series of fifty autopsies, I noticed that it was definitely rolled up over the flexura coli hepatis, however, old peritonitis existed in this case *No* doubt the position of the omentum is due to peculiar contractions and *dilatations* of the bowel, due to gases and feces and also to local peritonitis In the case of the cecum, whenever very severe inflammations had existed in that region, the omentum was fastened there, but I noted with care that as a rule the omentum did not cover the cecum, but was no doubt displaced from the cecum by its

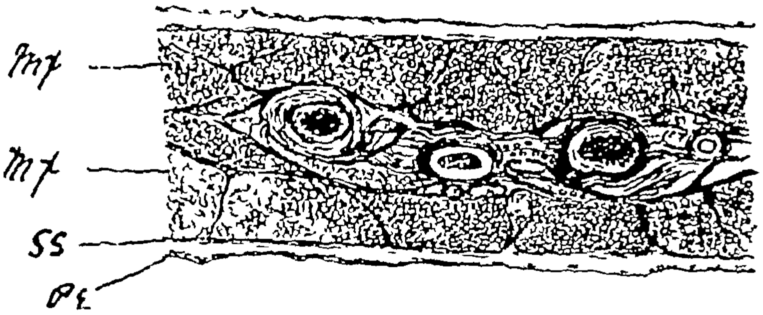

Fig 27 (after Toldt 1879) represents the three layers which compose a mesentery *m p* membrana propria mesenterii i e the real neuro-vascular visceral pedicle *s* subserosa, *p p* peritoneal layers of epithelium *It is drawn from a cross section of the middle portion of the* mesenterium of a four year old boy Enlarged seventeen times

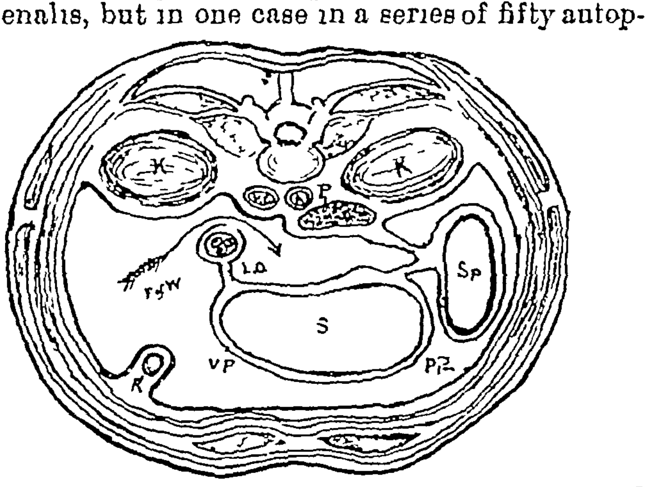

Fig 28 I present cut to illustrate a cross section of the peritoneal cavity at a level of Winslow's foramen *P p* parietal peritoneum *v p*, visceral peritoneum stomach *R*, round ligament of the liver *L o* lesser omentum *P* pancreas *I* vena cava, *A* aorta *K*, kidney *F of W*, *foramen* of Winslow (the arrow points to lesser cavity of omentum) By this figure it will be noted that the spleen is uncovered in two strips, viz hilus and strip on posterior border

frequent contraction and distension by gases It was common to find the lower edge of the omentum in all positions between the floor of the pelvis and the transverse colon, but generally ascending or shortening mainly along the left side The contraction and distension by gas of a long large sigmoid no doubt aids in forcing the omentum upward It does not appear from autopsies that repeated pregnancies induce the great omentum to enlarge and roll up

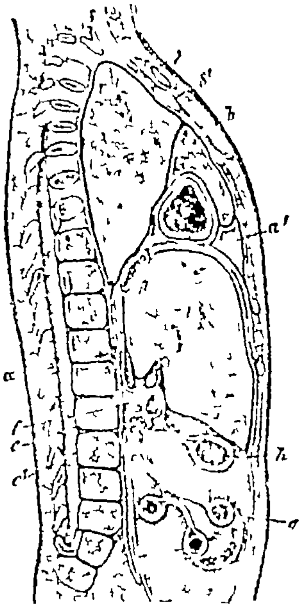

Fig 29 (after Abey 1871) represents a sagital longitudinal section of the body of a new born near its middle line It is one half natural size and shows the left cut surface a lung c heart b thymus gland a1 lower lobe of right lung d liver b inferior vena cava g lesser omental cavity f pancreas c upper and c1 lower cross section of duodenum g small intestine t colon transversum Observe how the liver and vena cava divide folds of peritoneum The peritoneal line is white

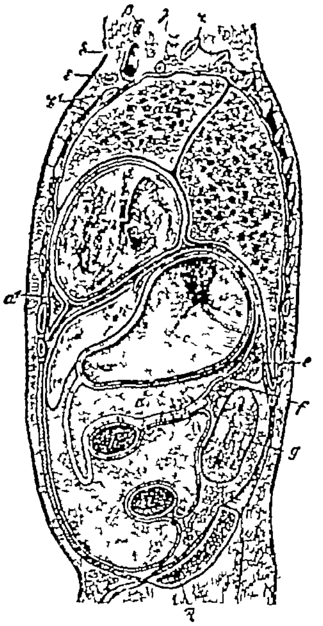

Fig 30 (after Abey, 1871) is another fine cut from the excellent Swiss anatomist It is a longitudinal section of a new born showing the right cut surface, one half natural size a upper and a1 lower lobe of left lung b heart c stomach d liver, with ligamentum phrenico hepaticum c, adrenal f pancreas g kidney h colon transversum i e iliac and bursa omentalis and ilium Notice Abey accepts the coalescence view of the union of the omentum and transverse mesocolon by the representation of four layers of peritoneum between the colon and dorsal wall

Neither is it always connected with local inflammation Yet it is often associated with local peritonitis No doubt the chief causes which induce the

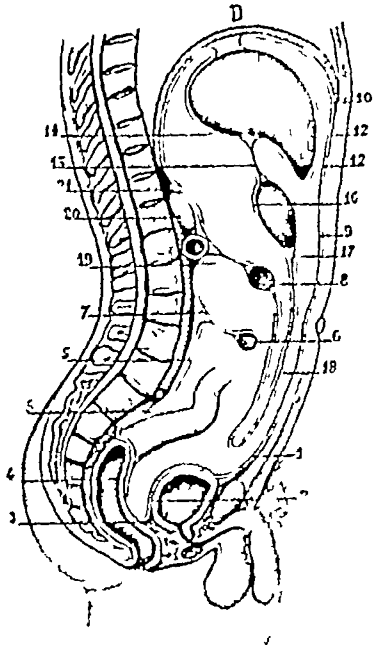

Fig 31 (after Sappey 1889) is a cut excellent for its simplicity It is quite diagrammatic It shows a vertical section of the serous cavity of the abdomen 1, parietal peritoneum just before it passes over the bladder 2 visceral peritoneum covering bladder 3 recto vesicle fossa (excavatio recto vesicalis or Douglass pouch) 4 envelope of the rectum 5 the beginning of the meso sigmoido mesenterium 6 mesenterium surrounding the small intestine 7 superior blade of mesentery, 8 continuation (into omentum) of superior blade of mesocolon 9 anterior abdominal parietal peritoneum 10 peritoneum covering diaphragm 12 peritoneum covering under surface of liver 13 peritoneum covering posterior under surface of liver and forming superior lining of lesser omental cavity 14 gastro hepatic omentum 16 superior blade of lesser omentum covering posterior surface of stomach 17 union of anterior and posterior blades which inclose the stomach (gastro colic omentum) 18 great omentum (anterior and posterior blades or descending and ascending folds) 19 mesocolon transversum 20 pancreas 21 a continuation upward over the pancreas of the superior blade of the transverse mesocolon

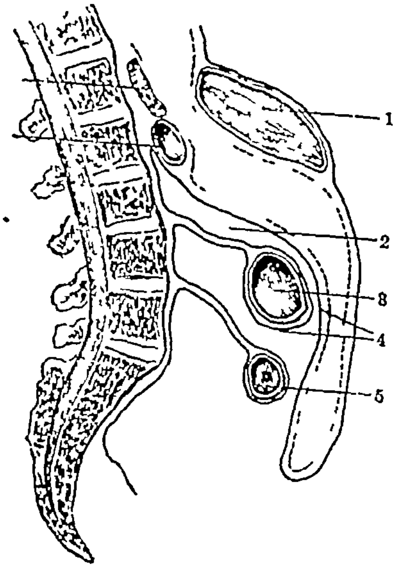

Fig 32 (after Cruveilhier) This cut represents the method of coalescence of the superior blade of the mesocolon transversum with the posterior (under) ascending blade of the ascending fold of the great omentum The figure is to illustrate how the cavity 2 (recessus peritonei) becomes obliterated by coalescence i e the two layers of the peritoneum forming the pocket (2) unite their surfaces as far as indicated by the figures 4, 4 The three layers of peritoneum above the inferior blade of the mesocolon transversum coalesce by loss of endothelium, to one blade making the superior blade of the mesocolon transversum This theory of coalescence is approved throughout in the labors of this work The view I hold is that the membrane or peritoneal layers forming the cavity (2) marked 2 is gradually displaced or dragged out which would leave the dotted line which ascends over the pancreas as the superior blade of the mesocolon transversum 1 stomach 8 colon transversum 5 intestine 2, the recessus peritonei, peritoneal pocket 4, indicates the point to which the two peritoneal blades coalesce The dog or cat are good examples to observe the displacement or readjustment of the peritoneum The white lines found along the meso sigmoid and descending colon are evidences, I think of displacement of the serous layers and not of coalescence great omentum to ascend and roll up are (*a*), distension and contraction of the bowels by gas or feces, (*b*), local peritonitis The bowels essentially concerned in displacing the omentum appear to me from autopsies to be (*a*), transverse colon, (*b*), cecum, (*c*), sigmoid flexure, (*d*), small bowels, and (*e*), a few cases of peculiar bladder distension So far as I can see, the chief use of the great omentum is to prevent the invasion of infection, and hence the main effect of its displacement will be to allow inflammation to cause adhesions in localities where its presence would have prevented it However, the use of the omentum will be discussed in the department of physiology It does not appear that bodily position particularly induces the displacement of the great omentum, for in dogs whose bodily position is quite different from that of man, I never once found the omentum rolled up toward the diaphragm But a dog has no real transverse colon, cecum or sigmoid flexure as man has A displaced great omentum is one abnormally fixed, whether it be by peritonitic adhesions or peritoneal fossa due to loops

The normal position of the great omentum is outlined by the left border of the esophagus, greater curvature of the stomach, a portion of the duodenum, and occasionally the outline passes down the ascending colon for a variable distance (in some fetuses it extended to the cecum) This constitutes the upper outline of the insertion of the great omentum as seen on opening the abdomen The lower outline will be the lateral walls of the abdomen, the floor of the two iliac fossa and the pelvic floor With a large, fat, thick and stiff omentum the above outline may be followed mathematically The outline of the insertion of the great omentum as regards the colon is from the ligamentum-phrenico-colicum on the left costal wall along the transverse colon to the flexura hepatis, and frequently the omental insertion extends a variable distance down the ascending colon This part of the great omentum (right lower border) is known as omentum colicum Halleri This outline can be traced by lifting up the great omentum and following the base line of insertion along the colon transversum In fetal life, childhood and in some early adolescent life, one can separate the layers of the great omentum The same view holds in dogs

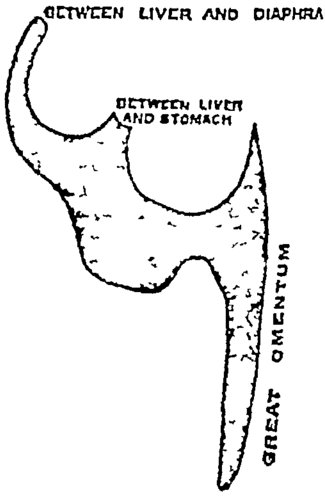

Fig 33 (Gray, 1877) represents the shape and outline of the lesser omental cavity (bursa omentalis) It is diagrammatic The lesser omental cavity I have divided into two cavities, greater and smaller Winslow's foramen leads into the smaller right cavity, which contains Spigel's lobe of the liver (a viscus) Huschke's foramen leads into the great cavity which lies behind the stomach and contains no viscus I named this foramen after Huschke because he was the first so far as I am aware to describe it, and I also consider Huschke s description of the peritoneum in 1844 as the first and most scientific description of the peritoneum Either or both Winslow s and Huschke's foramen may become closed by inflammation

Perhaps one of the best methods to make the outline of the insertion of the great omentum clearly visible is to force air through Winslow's foramen, but in such cases it must not be forgotten that old peritonitis may have constricted off considerable of the lesser omental sac, thus disturbing the original anatomic line of insertion

Now as regards the names which should be applied to the different parts of the great omentum or mesogaster posterior, they should be natural and indicate their office and location I shall attempt to describe parts of the mesogaster under such appropriate names It is absolutely necessary to have names for parts and localities of such a long, pendulous, wide fold as the mesogaster or great omentum In order to follow a simple plan with simple names, we will begin at the left border of the esophagus and follow the great omentum to the right lower border of the omentum colicum Halleri The first part which we will *name* is the ligamentum phrenico-esophageus, a thick dense fold of peritoneum reaching from the diaphragm to the left border of the esophageus and as far down as the cardiac end of the stomach Some of the fibers of this peritoneal duplicature pass from the diaphragm to the upper cardiac end of the stomach This band consists of two fine epithelial or serous layers indorsing a white connective tissue collection which appropriately may be compared to the mesenterii membrana propria Its milk-white color is due to accumulations of connective tissue The ligamentum phrenico esophageus is entirely analogous to what I have termed the pars tendinous ligamentum gastro-hepaticum The ligamentum phrenico-esophagus is a triangular fold of peritoneum containing considerable white fibrous tissue between its layers It gives much substantial support to the stomach and esophagus It generally reaches to the cardiac end of the stomach It is the most dense part of the whole great omentum Some authors have named this band ligamentum gastro-phrenicum, but I prefer the name above given The ligamentum gastro esophageus is not inclined to fat any more frequently than the pars tendineus of the ligamentum gastro hepaticum

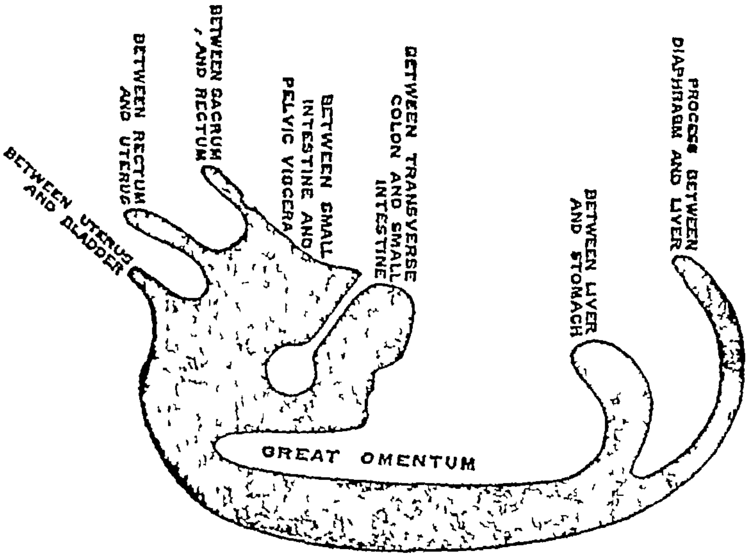
BETWEEN UTERUS AND BLADDER
BETWEEN RECTUM AND UTERUS
BETWEEN SACRUM AND RECTUM
BETWEEN SMALL INTESTINE AND PELVIC VISCERA
BETWEEN TRANSVERSE COLON AND SMALL INTESTINE
BETWEEN LIVER AND STOMACH
PROCESS BETWEEN DIAPHRAGM AND LIVER
GREAT OMENTUM

Fig 34 (Gray, 1887) is to represent the greater cavity of the peritoneum, quite diagrammatic

The next portion of the great omentum is a double-bladed band of peritoneum which extends from the greater curvature of the stomach to the hiatus of the spleen, and then intimately surrounds the spleen, blending with its capsule The band is known as the ligamentum gastro lienalis or gastro splenic ligament The peculiarity of the splenic ligament is that the part passing to the body of the spleen is intimately and closely blended with the organ In fact, the peritoneum and splenic capsule coalesce The ligamentum gastro lienalis has the vasa brevia lying between its blades and a short part of the distal part of the arteria lienalis The reason of this is that the main trunk of the splenic artery, three fourths, lies behind the posterior blade of the lesser omental sac until a short distance from the spleen, when it suddenly turns upward to gain access to the space between the layers of the gastro splenic ligament when the arteria lienalis is conducted to the spleen In fetal life the ligamentum gastro-lienalis can not be said to possess any length as the spleen develops close against the stomach, but in the progress of development the spleen travels more and more toward the left until it lies in contact with the costal wall The splenic ligament elongates rapidly after the sixth fetal month There is considerable connective tissue lying between the blades of the gastro splenic ligament beside five to seven arteria lienalis This duplicature of peritoneum is of considerable strength, inclined to fat accumulation and frequently subject to local peritonitis

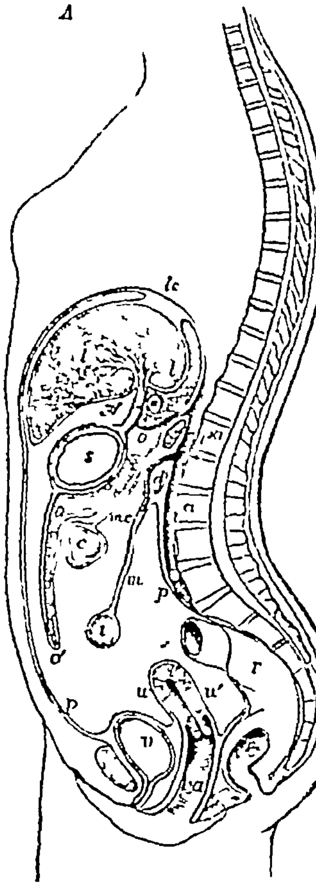

Fig 35 (after A Thomson 1882) represents a sagital longitudinal section of the peritoneal cavity It is an excellent figure The author of the cut adopted the theory of peritoneal coalescence as may be noted in the four layers of the mesocolon transversum in the drawing The section is intended to be in the median line of the body *l c* is placed above the diaphragm opposite to the coronary ligament of the liver *l* liver *l1* Spigel s lobe projecting into the right end of the lesser omental cavity *s* stomach *c* transverse colon peculiarly drawn to suit the theory of coalescence *i*, small intestine *p a* pancreas covered by serous epithelium only in front *a*, aorta *d* duodenum covered by serous epithelium only in front *u* urinary bladder covered only its upper part by serous epithelium, but surrounded by a bed of sub peritoneal tissue *u* uterus *r* rectum *r1* its lower part with a portion of its lateral wall cut away *v a*, vagina *p p* the parietal peritoneum lining the abdominal wall The line representing the reflections of the greater sac of the peritoneum can be traced from the coronary ligament at *l c* where it passes from the diaphragm to the upper surface of the liver over the upper and under surfaces of that organ to the gastro hepatic omentum *g h* It continues on to the front of the stomach down to *o 1* which is the anterior or descending double bladed layer of the great omentum thence it reflects on itself and passes to the vicinity of the pancreas *p a*, whence by displacement or being drawn out the colon transversum (*c*) becomes located between its blades (not by coalescence as indicated in the drawing) The lower blade of the mesocolon transversum *m c* now proceeds to the root of the mesenterium *m* where it envelopes the small intestines producing the mesenterium and curves at the root, again making the left (under) blade of the mesentery The membrane thence passes over the rectum, *r*, descends into the pelvis and covers a small portion of the posterior wall of the vagina *v a* the whole of the posterior surface of the uterus *u* and the anterior surface of the uterus *u* as far down as its internal os whence the membrane passes over the bladder covering only the dome of the organ, thence to the anterior abdominal wall *p* to the ligamentum coronarium hepatis to the point of beginning The figure in cut just to the right of the median line, therefore shows the foramen of Winslow *W* as an aperture The lesser omental cavity is shaded dark and shows Spigel's lobe, *l 1* projecting into its right and upper cavity indicated by *o o* From *l c* the layer of peritoneum lining the cavity can be easily traced from *l c* to *o 1*. Of course both cavities are really one and Winslow s foramen is only a constriction of the whole bag placed nearer one extremity than the other, i e the constriction represents an unequal hour glass 1

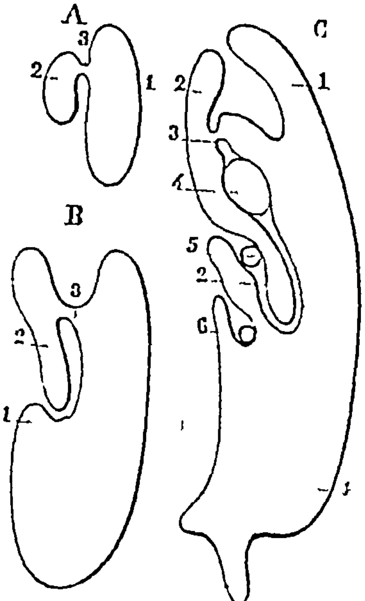

Fig 36 (after Sappey 1880) gives a diagrammatic illustration of the development of the peritoneal cavities *A*, shows the beginning of the two cavities 1, great omental cavity 2 lesser omental cavity 3 Winslow's foramen *B* shows the elongation and invagination of the smaller cavity (2) 1 great omental cavity 2, lesser omental cavity 3, foramen epiploon *C* shows a vertical section of both peritoneal cavities

The next short band belonging to the spleen and a part of the mesogaster is the ligamentum phrenico-lienalis This band of peritoneum extends from the diaphragm to the spleen The part of this ligament which is in contact with the spleen intimately blends with its capsule As the band passes from the diaphragm to the spleen, it returns from the posterior surface of the spleen in such a manner that it leaves a small strip of the posterior border of the spleen uncovered So that the gastric, splenic and phrenico-splenic ligaments which both cover the spleen leave a strip of the spleen uncovered at the hilus where the vessels and nerves pass in and out, and also a small strip of spleen uncovered on its posterior border This I have carefully investigated personally and think, though disputed by some authors, it represents the true state of matters in regard to the splenic ligaments The ligamentum phrenico-lienalis is a strong, whitish, dense fold of peritoneum which reaches from the top of the spleen to nearly its lower pole It falls short of the full length of the spleen on account of the ligamentum reno lienalis, a short duplicature of peritoneum reaching from the spleen to the kidney This ligament is not always the same in every individual on account of the varied position of the spleen and kidney Hence, authors dispute in regard to its complicated relations, as there is no doubt that in certain bodies occasionally there exists a portion of spleen uncovered between the upper pole of the kidney and the lower pole of the spleen The cut that accords with my investigations is that of Prof Hubert Luschka in regard to the splenic relations to its ligaments

The next lower portion of the mesogaster which deserves a name, and over which volumes have been written, is what I shall term the ligamentum phrenico colicum The synonyms of this ligament are, ligamentum costo-colicum, or pleuro colicum This ligament is the lower left border of the great omentum, i e, a continuation of the mesogaster from the flexura coli lienalis on to the surface of the diaphragm The ligamentum phrenico colicum serves as a support for the spleen It is an extension of the last acquired relations of the transverse colon and great omentum It is composed of four layers, and often in the left recesses of the ligamentum phrenico-colicum there exists constricted off sacs, closed or unclosed, due to local peritonitis The position of the spleen no doubt frequently depends on the length and strength of this ligament If the ligament be normal the spleen rests on it in a normal height but if the ligament elongates it gives origin to wandering of the spleen The ligamentum phrenico colicum extends from the greater curvature of the stomach and transverse colon to the surface of the diaphragm on the left costal wall Its width consists of the distance between the lower border of the splenic pole and the transverse colon It is a strong ligament composed of four blades of peritoneum containing some connective tissue fibers between its blades In the region of this ligament nearly all adult bodies show local peritonitis It produces a sharp angle (flexura coli lientalis) at the junction of the descending and transverse colons, by dragging this portion of the bowel well upward toward the costal wall No doubt much of the local peritonitis existing around the spleen is due to wandering through the bowel wall of microbes or their products by reason of trauma of the micosa from sharp foreign bodies passing around the acute angle

The next portion of the mesogaster entitled to a distinct name is the ligamentum gastro colicum over which men have disputed for centuries The gastrocolic ligament is a double-bladed fold of peritoneum extending from the greater curvature of the stomach to the transverse colon The ligament acquired its relations with the transverse colon during fetal life, gradually from right to left, beginning in the second month Its origin is due to the intimate relation of the right end of the large bowel with the duodenum and mosoduodenum It consists of two layers which afford a bed for the gastric arteries, epiploica dextra and sinistra Its posterior blade forms the anterior wall of the lesser omental bag and its anterior blade is next to the parietal peritoneum anterior Its left end extends to the costal wall and merges into the ligamentum phrenico colicum

How does the posterior border of the spleen become uncovered by peritoneum? I examined quite a number of fetuses and adults in order to convince myself of the process In an early fetus it is easy to trace the posterior mesogaster to its insertion in the mid-dorsal line In adults one can not do it very easily, if at all in most adult cadavers This is because the left blade of the mesogaster during the leftward shifting of the stomach, is displaced or shifted toward the left of the vertebral column The fold of peritoneum which forms the left blade of the mesogaster meeting the fold of peritoneum which crosses the dorsal wall at the root of the mesogaster simply withdraws itself toward the left Considerable of the root of the left mesogastric blade is pushed from its original mid-dorsal insertion by the leftward moving great stomach curve This leaves only the right root of the blade of the mesogaster inserted in its original mid-dorsal line This process forces the blades of the mesogaster at the root apart The separating process of the mesogaster at its origin continually proceeds until a small strip of the spleen becomes uncovered at its posterior border The force which separates the blades of the mesogaster at its base and exposes a narrow strip of the posterior border of the spleen is analogous to the separation of the blades of the mesogaster in exposing a part of the pancreas in its middle portion, for the tail and head of the pancreas may still remain in the mesoduodenum and gastro colic omentum, while its body or middle portion may be entirely out of the meso-colon, i e, a retro-peritoneal organ so far as the epithelial layer of the peritoneum is concerned This anatomic fact as regards the pancreas being an organ which can be both retro-peritoneal and entirely in a mesentery, I have observed in cadavers

Hence, we may affirm that the spleen becomes uncovered from the peritoneum on its posterior border by the separation of the blades of the posterior mesogaster at its base, in the same manner as the pancreas become uncovered by peritoneum by the separation of the blades at the base of the mesocolon transversum The strip of spleen not covered by peritoneum does not reach to the lower pole of the spleen in cadavers examined by me, but stops short one fourth to one third the length of the spleen The process which exposes the spleen retro peritoneally, includes an apparent oblique insertion of the mesogaster in the adults It is, however, purely a secondary or acquired change, brought about by the pressure of the liver exercising itself on the stomach, forcing the stomach to the left, and pressing the root of the mesogaster firmly against the left dorsal, resulting in displacement of the left blade leftward, and fixing the right blade as dorsal parietal peritoneum

(To be continued)

SOCIETY PROCEEDINGS

American Electro-Therapeutic Association

Fourth Annual Meeting held in New York Academy of Medicine, New York, Sept 25, 26 and 27, 1894

William J Herdman, M D, President

(Continued from page 115)

Dr W S Hedley also presented a paper on

THE ELECTRIC DOUCHE

In the electric douche we have a therapeutic expedient of undoubted promise Yet in the way of accurate experimental investigation, singularly little seems to have been attempted Sufficient, however, has been done to demonstrate both its electrical power and its therapeutic possibilities The idea of the present paper is to point to the nature of the inquiry which has led to these conclusions, to supplement that inquiry by some further experiences, and especially to enter into greater detail as to how the method may be best systematized and applied

That the electrized water bath possesses many unique advantages as a means of applying electricity to the body has long been recognized That it is the best form of application for a certain class of cases is very generally admitted Not only is it the pleasantest, but it is, of all other methods, the one that best deserves the name of "general electrization" Its efficacy, however, depends in most cases on a general and distributed action rather than on any strictly localized effects The electric douche has been devised as a means of retaining the advantages of the electro hydriatic method and at the same time presenting facilities for strict localization and accurate dosage and seeing the advantages of a labile as well as of a stabile action

Attempts have been made to attain the above ends by the use of spray or vapor, but such attempts have failed, because the conducting medium had been so broken up and disintegrated that it ceased to act as a conductor It is manifest that any stream of conducting fluid can only retain its conductivity so long as it remains whole, continuous, and unbroken Spray is composed of numerous small globules, sometimes appearing as many fine continuous streams, but actually possessing no real conductivity in the sense that applies to the matter under consideration

The method of application, apart from certain non essential details is much of the nature of what would be known in hydrotherapeutics as the 'movable jet douche" (douche mobile), and the nozzle is so arranged that the electrized stream escapes in the form of a more or less condensed jet or jets, which, with a certain minimum of pressure, remain unbroken and continuous for a reasonable distance after emerging from the pipe, and therefore for that distance retain their electric conductivity (There ought to be a means of regulating temperature[1] and pressure) With this arrangement one pole may be placed in contact with some indifferent part of the patient's body while the other is connected to the internal metal of the douche, with the result that when the douche is set in action the second pole is brought to the patient by and in the fluid, and may be concentrated as a single jet, or distributed as many small jets The fluid is, in fact the second electrode

Let us inquire, then, by direct experiment, how much current this water conductor carries, and how much enters the body of the patient The following experiments are necessarily only a selected few, but a sufficient number of results are quoted to give some general ideas Details of the apparatus are also as much as possible omitted It need only be mentioned that, permanent water pressure not being available, a hand pump, drawing from a suitable vessel, was used for the douche, which was fitted with a nozzle or rose (having its outer edge insulated with india rubber) of the size mentioned below The electric apparatus consisted of a Leclanche battery of 74 cells (with a milliampere meter in circuit) and a fair sized induction coil One pole was attached to a large electrode on which the patient sat, and the other connected with the metal of the nozzle or rose, well insulated wire being used for the connections The following results were obtained

TABLE A *

Plain water at 98° F continuous current

Nozzle	E M F	Pole to douche	Distance of nozzle from body	Current passing
1 ¼ in jet (single)	75	—	1.5 in	5 milliamperes
2. Do do			0 5 in	15 milliamperes
3 Rose 2 in dia, forty nine perforations	"		1 in	5 milliamperes
4 Single jet	"	+	18 in	Deflection (taken on reflecting galvanometer) right off scale Probably quite 100 microampères

TABLE B *

Salt water (1½ lb to gal) temperature 98° F continuous current

Nozzle	E M F	Pole to douche	Distance of nozzle from body	Current passing
1 Rose	75	—	1.5 in	7.5 milliamperes
2 Single jet	40	+	18 in	20 milliamperes

TABLE C *

Plain water, temperature 98° F alternating current

Nozzle	E M F	Pole to douche	Distance of nozzle from body	Current passing
1 Rose	x	+	1.5 in	Subject cried out "Stop" Milliampere meter (alternating current) in circuit did not register
2 Single jet	"	+	12 in	Noise marked in telephone Subject felt current

* The above tables and some of the explanatory matter have already been published in the *Lancet*

Several readings were taken with alternating current and salt water, all showing that the effect was much stronger with salt water than with plain These experiments seem to show that electricity can be imparted to the human body by means of the electric douche, provided that sufficient electro motive force be used and the stream of fluid be continuous Table B shows that when salt water is used strong currents may be passed over considerable distances with a very moderate electro-motive fore Table C shows that by using coil currents, which always possess a comparatively high electro motive force, as much current as a patient can comfortably bear may be passed over many inches of space Its current carrying capacity being thus established, we may glance for a moment at its therapeutic effects

Though the apparatus necessary for the electric douche need not be elaborate nor complicated, there are certain essential details of construction which must not be lost sight of, and without which not only is its efficiency impaired, but the risk of administering objectionable shocks to operator or patient becomes by no means inconsiderable The main points are somewhat as follows a proper mechanical arrangement to secure that the fluid conductor shall pass out in unbroken streams or jets for a sufficient distance to conduct the electric current to the patient's body Irregularly shaped orifices will often to such an extent break up the column of fluid, even when issuing at considerable pressure, that its conductivity becomes practically *nil*, or, as sometimes happens, it is so intermittent that the current passes in a series of jumps, which are worse than useless for the purpose in question Further, in the case of "rose" nozzles, if the site of the orifices fall below a certain gauge, relatively to pressure, the issuing jets are too fine, there is no continuity of stream, and consequently no electrical conductivity, or, again, if the orifices be not all of the same diameter irregular conduction will result Careful attention must be paid to insulation Want of due care in this point will soon be notified to those concerned by the unpleasant reminder already adverted to When it is considered that currents of a fairly high electro-motive force have to be used for the douche, and that nothing is more probable than the occurrence of some unexpected, and perhaps for the moment unavoidable, movement of the patient, whereby the instrument comes in contact with his skin, it is evident that unless the metal nozzle be well insulated a violent, perhaps serious, and certainly unnecessary shock will follow Attention to insulation is also necessary in connection with the metal pipes and taps which control the water supply, in order that electrical leakage may be avoided The apparatus consists of a short length of flexible rubber tubing, having an inside conducting wire, one end of which is brought out and connected to a terminal about two inches from the brass union which joins on to the supply pipes The two inches or so of rubber tubing thus interposed between the metal pipes and the conducting wire act as effective insulation at this end of the arrangement The other end of the internal wire is soldered to the inside of the metal screw, to which different nozzles are attached The nozzles are two in number one a single "jet," for current concentration, the other a "rose" for current diffusion Each nozzle has an inner base of brass covered with a sheath of vulcanite, which projects one eighth of an inch beyond the brasswork The orifices are true circles, and their metallic surfaces carefully smoothed, so that

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[1] Table to show the influence of temperature on the electrical conductivity of water

R of bath water taken as it cooled (By Wheatstone Bridge)

Temp	R
98° F	165
92°	104
87°	204
70° "	440

These figures only show the alterations in R owing to temperature and the *actual* R in *this particular bath* R varies with volume as well as with temperature the issuing columns of water are kept intact for a considerable distance It will be seen that perfect insulation is thus secured at all points, and even if through accident the nozzle does approach too near the patient, it is the insulating vulcanite, and not the conducting metal, that makes the contact

By the use of such an apparatus it has been found that, with the ordinary domestic water supply, continuous currents of useful strength may be passed with an E M F of 50 to 60 volts (from a battery of 40 Hellesen cells) when the nozzle is held several inches from the patient Alternating currents from a fair sized bath coil pass through a much greater distance Reference to the foregoing table of experiments shows that if saline or other special conducting fluids be used, the distance through which the current passes is of course much increased

One drawback to the use of the electric douche is undoubtedly the amount of splashing which it causes This difficulty, however, is easily overcome by simple expedients, the simplest, and perhaps the most effective, being the use of waterproof curtains, suspended round the ordinary bath These curtains must be of sufficient width to completely enclose the patient when sitting or standing, and should so hang that their lower ends fall just inside the bath When in use the curtain will be pulled slightly aside so as to admit the douche nozzle All splashing is thus kept within the inclosed space and it drains down into the bath

There was a time in the days of "brutal hydrotherapeutic empiricism" when both physician and patient had a (not altogether inexplicable) dread of the "hydrostatic douche" This, however, has given way before a more enlightened method of administration, and the douche is acknowledged to possess stimulating and alterative properties of no mean order It seems not unreasonable, therefore, to suppose that in the combined electric and hydriatic procedure we may have a therapeutic agent of considerable power It claims that according to variations in temperature, force and duration, it may be resorted to as an agent more gentle and adaptable than even the "electric hand" of the physician, or may be made to become so potent and concentrated as to prove a veritable electro-hydriatic moxa It presents itself as a means of general electrization by bringing the various parts of the body successively under its influence, it claims an action that may be strictly localized, and, further, offers itself as a means of producing, through various motor inhibitory and secretory reflexes, those influences on nervous centers and glands which can undoubtedly be brought about by other and more painful methods of peripheral electrical excitation If it can establish claims of this kind, a field of usefulness seems to lie before it in a class of cases which readily suggest themselves

It can not be attempted here to particularize the multiplicity of cases to which such a very adaptable method may lend itself There are a few leading features, however, in connection with its possible therapeutic uses which may briefly be adverted to

The action of the electric douche as a means of electrization by bringing the various parts of the body successively under its influence, and as a local application by bringing it to bear on any special part, have already been referred to Used in this way we shall not fail to find it in a nervine tonic "heightening cutaneous sensibility and quickening motor excitability" It will influence nutrition and absorption by its control over the distribution and circulation of the blood current It will act favorably also on local diseases, such as chronic joint affections, and promote absorption through its influence on the circulation Its usefulness in states of general debility and malnutrition, neurasthenia, spinal debility, exhaustion, and any case in which want of "tone" is the prominent feature, needs no showing These effects will be brought about in more ways than one, but chiefly, perhaps, by the enormous range of reflexes that, by so effective a method of cutaneous stimulation, are brought into action Its adaptability to some forms of internal application can not fail to suggest itself Recent therapeutic experiences leave me in no doubt as to the usefulness of the electric douche I have lately brought it to bear on a case of pressure-paralysis with rapidly satisfactory results I have called it into requisition for the peripheral portion of the treatment of an old standing paralysis of central origin I have found it a most useful adjunct to other electrical methods in the treatment of that ensemble of symptoms known as neurasthenia, and in several cases of anesthesia I have found it of such infinite service that, so far as anesthesia is curable at all, I have come to regard the electric douche as a sovereign remedy

DR O S PHELPS, of New York, presented a paper on

SOME LANDMARKS IN ELECTRO-THERAPEUTICS

That the wonderful development of electrical appliances within the present decade has not been altogether an unmixed good, may we think be asserted without fear of contradiction ' We will not consider its commercial aspect, but confine our remarks to its therapeutic uses The widespread belief among the laity, that in the latest discoveries in electro therapeutics, is found a panacea for all their ills, is a rock that should be carefully noted on our charts It has been a potent influence in putting an electrical outfit in many a doctor's office, with more or less disastrous results to the cause of electro-therapeutics In this connection an aphorism might be offered—don't use unfamiliar tools The unsuspecting doctor is too often led into purchasing an "all around outfit" from the enterprising agent for electrical goods—"neat and compact," with which to do all the brilliant work of which he and his patients have read and heard so much—without knowing even the first principles of electro physics or the construction of the simplest form of battery I can not refrain from relating a recent occurrence which illustrates the demand on the part of the laity for electrical treatment, and incidentally an example quite refreshing of the honor of one of our manufacturers of electro-medical apparatus Mr B had been for some time failing in health and was advised to procure a battery for self-treatment He accordingly went to a well-known dealer and manufacturer to purchase the instrument that was to restore him to health Instead of selling one to him, he sent him to the writer for advice as to whether he needed electrical treatment or not An examination revealed the fact that the man had phthisis approaching the third stage

I am often asked the question, What kind of a battery shall I buy? and in answer to my query, What do you wish to do with it? the reply usually given is "One suitable for doing all kinds of work" Gynecologic, from A to Z, neurologic, ditto, epilation, cautery, and the general treatment of tumors and rheumatism thrown in Gentlemen, this would be ludicrous were it not sad That the picture is not overdrawn, the writer will here confess that it is not many years since his own ignorance of electricity was just as dense, and the object of this paper is to point out some of the stumbling blocks in the way of progress

Grand and brilliant as is some of the work already accomplished, there is no royal road to success in the cure of disease by electricity, and it goes without saying that those who have attained success in its use began at the bottom rung The best advice which could be given to those who are unfamiliar with the subject would be

1 Make a thorough study of at least elementary electro-physics

2 The construction of the more common forms of medical batteries, and the adaptability of each to the different uses for which medical batteries are needed One should be able to construct, if need be, or repair any of the apparatus he uses I do not mean that it would be practical to do so, but to be able to do so makes you master of the situation, and you can not be imposed upon by ignorant or designing vendors

3 Should come the study of electro-therapeutics—a subject at the present moment illusive, seductive, progressive, having garnered some truths from the chaff of speculation and some successes on a road strewn with many failures, a very useful addition to the physician's armamentarium, a vigorous, promising infant, we hope much for its majority

Important results in even a single case undoubtedly reached by the use of a particular agent are at least a landmark, and may help to establish a principle

A little over a year ago the writer was consulted by Mrs W Her previous history indicated that she had had several attacks of—in common parlance—pelvic cellulitis, with varying intervals between, though they were at the time diagnosed as peritonitis An examination proved it to be a case of peri-uterine inflammation, with considerable exudation, compressing the left ovary and involving the broad ligament and tube She complained of pain in the region involved, increased by any attempt at walking, defecation, or voiding of urine Her temperature was continuously abnormal—from 100 to 102 degrees The patient was ordered to bed and a high tension faradic current applied *per vaginam* with a bipolar electrode, with the result of relieving the pain and lowering the temperature This course was pursued with the object of reducing the inflammation to a point where galvanism could be used Progress was often interrupted by the indiscretions of the patient, till the family became impatient and upon the advent of a visit from a brother from Boston, and his decision to have "something done," she was taken to one of our prominent hospitals and pronounced to be a case for operation However, when her husband was told that probably the pelvis would have to be cleared, and that she might not come off the table alive, he weakened—took her home and sent for her former physician She was found with all her symptoms aggravated, the exudation having extended to the right side and in front, so that the pressure against the bladder made it impossible to retain more than an ounce of urine, which it was agony to void The pressure around the left ovary kept her vomiting almost constantly Dr Goelet was called in consultation and confirmed the diagnosis and the opinion that surgical interference was out of the question He advised the continuation of the electrical treatment carried out with the utmost vigor, and for a time the high tension faradic current was used three to six times a day, *vagino-abdominal* and vagino-bipolar, with the result of reducing the inflammation and modifying the other symptoms to such a degree that galvanism could be brought into requisition A current of 30 milliampères was used every five days, with the cathode in Douglas' cul de sac, and anode to abdomen The electrodes consisting of a pad 6 x 6 in one case and a suitable vaginal electrode in the other, time of application seven to ten minutes, followed by a fifteen minute séance with the bipolar faradic which relieved all pain and irritation caused by the galvanic treatment In four weeks the patient was able to come to the office *The case has* steadily progressed till now there is only a small nodule the size of a walnut She can stand upright, walks, rides, and performs household duties, without pain or inconvenience Has gained in weight from 75 to 145 pounds

I do not cite this case as an argument against surgical interference when indicated, or a cure all in all the pelvic diseases common to women But will submit to you that granting in this case a hysterectomy to have been feasible and followed by the best results that operation can afford, is the patient to be envied because she has not played a part in so brilliant a procedure?

Case 2—Miss D, aged 17 years, first noticed slight leucorrhea in November, 1893, a little later constipation and slight abdominal pains after defecation, and also some pain when the urine was voided These symptoms slight at first, gradually increased and in January she was taken from school, the bowels regulated and rest enjoined This was followed for a short time by some improvement, but in March so much anxiety was caused by her condition that the family physician was called who made an examination and informed her parents that he found a growth in the pelvis to the left of the uterus He advised a course of medication looking toward absorption, tonics, good feeding, etc For a time there was some amelioration of the symptoms, but a slow reduction in weight from 120 pounds in November to 104 pounds in April, was not encouraging In June she became much worse, great pain in the bladder and inability to retain the urine She was in fact treated for inflammation of that organ This last exacerbation so alarmed her friends that steps were inaugurated to have something more radical done, and they were advised to bring her to New York for an operation for removal of the growth She came under the writer's care on July 6 Her condition at *that time* was very unpromising pain continuous and increased by the slightest move and more particularly upon evacuating the bowels or bladder or tension of the abdominal muscles, the body being bent forward to quite an angle She was greatly emaciated weighing only seventy-three pounds, temperature from 100 to 103 degrees, *no appetite*, and extremely weak This in a general way, was the picture she presented An examination made under *an* anesthetic showed a fibrous growth which had pushed the uterus well over to the left, flattened and reaching well up *toward* the umbilicus Whether part of this was an exudation from the peri uterine inflammation could *not then be fully* established, but subsequent treatment proved that it was The left ovary was involved *in an exudation* and the bladder was impinged upon, causing the bladder symptoms which had given so much trouble earl*ier in the case* *After a* rest of a few days, Dr Goelet was called in consultation and under an anesthetic she was again examined, confirming the above and advising a continuation of the treatment already inaugurated, viz, *the high tension* faradic current vagino abdominal and sacro-lumbar, with the view of reducing inflammation, pressure and pain, and improvement of her general condition, so that some radical measures could be taken, among which would be galvanism and ligation of the uterine arteries For some time very little progress was made, but finally all the symptoms began to yield, pressure, pain, temperature and improvement was unmistakable *During* the past four weeks the temperature has been normal, entire freedom from pain, weighs eighty pounds, can stand erect, walks about the house, and says she is much more comfortable in every way than she has been for ten months The next step in the case will be galvanism, the result of which will determine whether the knife will be resorted to or not

These cases will suffice to illustrate a very interesting field in electro-therapeutics and in gynecology as well They prove that congestion and inflammation can be successfully treated by electricity under proper conditions with a suitable apparatus discreetly applied, our past *instructions* notwithstanding They *also* indicate that *many* cases which are at once relegated to the surgeon's knife can be cured without the ordeal of an operation and the unsexing of the *patient, and many others* prepared *for* an operation, better I believe than in any other way I also believe there are many cases where a hysterectomy would at first seem to be the only course to pursue, that with preliminary electrical treatment and the modified operation for ligating the uterine arteries, devised by our worthy ex-President, Dr Goelet, the patient can be cured with the pelvic organs left intact

To recapitulate we would *again say to the would-be* electro therapeutist there is no royal road to the cure of disease by *electricity* *Each case* is a law *unto itself, and* must be carefully studied as such Make yourself master of *the* situation both by knowledge of electro physics, construction, character, and quality of apparatus and knowledge, to date, of electro-therapeutics—remembering as well that the best specialist is the best all round doctor—following which all other means such as appropriate hygienic conditions, diet, rest, and proper medication, will be brought *into* requisition As physicians we should seek the glory of a cure, rather than the glory of *any agent*

DISCUSSION

Dr Goelet said he had seen with Dr Phelps the cases reported in the paper, and the outlook had *been certainly* very unfavorable in both at first The results obtained by Dr Phelps served to *convince him that* much more could be accomplished with the faradic current than even he had hitherto supposed *In the* second case the continuance of the current was suggested simply to improve the patient's general health and prepare her for operation Dr Phelps was to be congratulated upon the result he had been able to accomplish in these two cases He wished to correct the impression which may have been made that he *had* devised *the* operation of litigation of uterine arteries That however, was Dr Martin's, of Chicago

Dr Ross thought that with the mild current employed one would hardly have expected *that* there would have been the rise of temperature in the case reported

Dr Phelps, in closing the discussion, said that he had understood that Dr Goelet had modified the operation of ligation of the uterine arteries, and it was to this he had intended to refer In the second case related, the very low condition of the patient and the long continued abnormal temperature without any change, so far as could be detected, would have certainly have discouraged him from continuing its use had it not been because of former successes *following the* persistent use of the current

Dr Robert Newman, of New York, *read* a paper on

REICHARDT NEW GALVANIC BATTERY FOR ELECTRIC ILLUMINATION

This battery consists of four-cells each 2 volts, and all four cells will give 6 ampères Experiments on July 7 and 8

The battery can scarcely be used as a galvano cautery and will heat only a small platinum burner It is intended to illuminate cavities, particularly with a lens used as a head mirror

Test with a Leiter's cystoscope which needs 7 volts, a bladder (manikin) was *well* lighted up, with one inch left burning outside of the elements of the fluid The light was bright for five minutes Agitation of the fluid *kept the* light up for five minutes longer, when polarization made the light a little uncertain Then the *elements* were lowered into the fluid its full length and the light was restored to the same capacity as it was when first tried This kept up five minutes longer Hence a constant continued light could be kept up for fully *fifteen* minutes with this battery—after that time more polarization took place, so that the light *faded after twenty minutes* However even then an examination could be made After twenty-five minutes the light grew uncertain and the cells were so hot that the elements had to be raised out of the fluid and the test discontinued

After an intermission of ten minutes the battery gave again an excellent illumination, but the cells were overheated and could not be used It takes about one hour to cool off the cells respective of the fluid

It can be stated that this battery will give a good light for examination fully fifteen minutes, whenever 7 or 8 volts are required

The battery fluid used for these tests was weak, only 1 part sulphuric acid to 9 parts of water with bichromate of potasse which solution is sufficiently strong A stronger solution may be used for this battery which, however, is not needed, as the one just described works well enough, and is more economical, saving the zincs of the elements After each use, the elements should be cleansed by letting water run over it

Description of the battery the battery stands on a platform four and three fourths inches square The height of the whole instrument is twelve inches and when the elements are immersed in the fluid only seven inches Four cells, each five inches high by two inches square, each may contain five ounces

Elements each cell contains two carbons and one zinc and can be used with either one, two, three or all four cells

Instead of the rheostat, the potential can be regulated by the distance the elements are immersed in the battery fluid and also by the number of cells used

Weight is four pounds and thirteen ounces

Second Day, September 26—Evening Session

Business Meeting

The meeting was called to order by the President at 8 40 p m On motion, the reading of the minutes was dispensed with The report of the Secretary was then read

The President—It has been customary to have these accounts transferred to a committee for auditing Is this the desire of the Association? On motion, the President was requested to appoint such a committee, consisting of two Dr Charles R Dickson and Dr Brown were appointed Upon their suggestion and approval, the report was accepted, as read

The Secretary's report on matters from the Council was then read

A report of the meeting of the Executive Council, of Monday, Sept 24, 1894, and its recommendation was then read

The President—It is your duty to confirm this action of the Council A motion was duly made and carried, confirming the recommendations of the Council

The Treasurer's report was then read and accepted

The Secretary announced that the Council had decided that the papers might be published where the authors desired, but that a copy must be placed in the hands of the Secretary before the adjournment of the meeting

A lengthy discussion was entered into by Drs Massey Cleaves, Smith, Dickson, Nunn and Walker, as to the question of having papers which had been read before the Society published elsewhere before being published by the Association

Dr Kellogg moved as an amendment that the members be permitted to publish *abstracts* of their papers Seconded by Dr Dickson, and carried The original motion as amended was also carried

The President—The next thing is the matter of continuing Standing Committees on Instruments A motion was made and carried, postponing action on this matter

Election of Officers

The President—The next in order is the election of a President, two Vice-Presidents, a Secretary, and a Treasurer, and five members for the Executive Council

Dr A H Goelet—I take great pleasure in nominating a man who was a pioneer in modern methods of electricity in America I am sure you will all agree with me that we could procure no better man to fill the high office of President than Dr A Lapthorn Smith, of Montreal

Dr W J Morton seconded the nomination, and on motion, the nominations were closed

On motion, the Secretary was instructed to cast one affirmative ballot on behalf of the Association for Dr A Lapthorn Smith as President

Dr A Lapthorn Smith—I thank you very heartily for the honor which was entirely unexpected Your confidence in me will lead me to make greater exertions in the interest of the Association, and I promise you I will not allow the work to deteriorate during my term of office Again, I thank you heartily

Dr Massey—We went to Canada for a President, let us go West for a Vice-President I take pleasure in nominating Dr J H Kellogg, of Battle Creek, Mich

Dr Dickson seconded the nomination

Dr Goelet—I take pleasure also in nominating Dr C R Dickson, of Toronto, for Vice President

Dr Kellogg seconded the nomination

Dr Holford Walker, of Toronto, was also nominated, but declined

On motion, the nominations were closed Ballots were distributed, and the tellers announced that Dr Kellogg had been elected first Vice-President, and Dr Dickson second Vice-President

Dr Goelet—I take pleasure in placing before you in nomination the name of a man well known for his executive ability and to whose energy we are indebted for the very excellent exhibit in the adjoining room, and furthermore he is a New York man I nominate Dr Emil Heuel for Secretary

On motion, the nominations were closed

On motion, the Secretary was instructed to cast an affirmative ballot for Dr Emil Heuel for Secretary

Dr W J Morton—I take pleasure in nominating for Treasurer the same sunny-faced gentleman we have had heretofore—Dr Nunn, of Savannah, Ga

On motion, the nominations were closed, and the Secretary was instructed to cast one affirmative ballot for Dr Nunn for Treasurer

The following gentlemen were then nominated and elected to the Executive Council Drs W J Herdman, G Betton Massey, W J Morton, A H Goelet, and O B Douglas

Dr R J Nunn—In rising to make this motion I am about to appeal to the sensibilities of every member in the Association I desire to express the obligations we are under to our retiring Secretary We appreciate the work she has done, which has been so great as to cause her health to give way in the interests of the Association I therefore move that by a rising vote the thanks of the Association be now tendered to Dr Margaret A Cleaves for the able and self-sacrificing manner in which she has performed the duties of Secretary of this Association

The President—As retiring President I would say to you that every word of this motion has its full meaning No one could have done better work than she has done It is out of regard for her that we do this

The motion was then put, and carried unanimously

Dr A Lapthorn Smith then expressed the wish that the Association would decide to meet in Montreal next September, and assured them that if they did so they would have a hearty welcome

On motion, the Association then adjourned to participate in the reception tendered them by the resident members

Third Day, September 27—Morning Session

Business Meeting

The meeting was called to order by the President at 10 a m

The President—The suggestion I made at the first part of the meeting has apparently met with general approval These committees were organized two years ago with the object of having some person responsible for looking after the apparatus which is being prepared for our purposes by the mechanicians Until recently we have been largely in the hands of the mechanicians who have made up our machines, and have told us how we should use them Now we have got to the point where we can dictate to them, and tell them just what we want In this pioneer work, however, it is necessary that some person should be responsible for the construction of our apparatus, and also that we should be able to place ourselves in a representative position before the profession at large The members of the various committees have not fully understood the scope intended for their work, as I originally suggested it, but they are beginning to understand it now They should make practical tests of the various apparatus, and also give us an epitome of the work of the year in their respective departments It is my desire, and that of many others in this Association, that these committees be put upon a more comprehensive basis If you will turn to the Constitution and By-Laws you will see the list of the various committees It was our original intention to adopt standard coils, and standard machines of various kinds, but we have since come to the conclusion that by so doing we would become more or less embarrassed, becoming the aiders and abettors of some particular manufacturer All that we need to do is to state what is required in a particular instrument or apparatus, and to adopt certain standard principles, and hence I suggest that we should leave out the word ' standard," wherever it occurs in connection with the titles of these committees Lastly, I would suggest that a committee on Electric Light Apparatus for Diagnosis and Therapy be formed I would also introduce the following sentence 'The following committees are expected to collate information and make careful tests as to the nature and efficiency of all instruments put on the market in the class assigned to them, and to make full reports of their investigations at the annual meeting ' I would introduce a sentence of that sort as explanatory of the functions of these committees You must take action in order that the committees be continued, and I will appoint the members for these different committees I am ready to entertain such a motion

Dr Goelet—I make a motion to that effect Seconded by Dr Beaver and carried

Dr Beaver—We all know that instrument makers have their own methods of connecting the conducting cords to the battery and with the electrodes—by springs and screws of various sizes I think we should make an effort to get the instrument makers to adopt some uniformity in this respect I move therefore that the Committee on Electrodes be instructed to communicate with the manufacturers and endeavor to have them adopt some uniform connections Seconded and carried

Dr Goelet announced on behalf of the Council that the Association had been invited to Montreal, and he thought it would be eminently wise that the Association accept this invitation especially as the next President was from Montreal

Dr Dickson—I have been asked by Dr A Lapthorn Smith to urge the Association to meet next year in Montreal, as he has found it rather difficult work to excite sufficient interest among the profession there in the subject of electro therapeutics I am assured that you will meet with a hearty welcome and I am positive that you will not be sorry for choosing this for the next place of meeting There are many places of interest in the surrounding country, and the city is easy of access

Dr Beaver—I move that the next meeting of the Association be held in Montreal, the date being left to the Council Seconded

The President stated that Dr Smith had told him that he could get the support of the laity in Montreal, but perhaps not of the medical profession

Dr. Beaver—I would change the motion then so as to read Toronto instead of Montreal

Dr. Walker assured the Association of a hearty welcome at Toronto

The motion was then put and carried that the Association should meet in Toronto

The Secretary moved that the Association pass a vote of thanks to the New York Academy of Medicine, to Mr Nikola Tesla, to the Edison Manufacturing Company, to the Resident Fellows, and to the Committee of Arrangements Seconded and carried

The Secretary announced that Dr Gehrung had sent a letter of regret at his inability to be present at this meeting

Scientific Session

Report of the Committee on Constant Current Generators and Controllers, by Dr W J Herdman, of Ann Arbor Mich

(The report was not read but the main points were briefly stated)

Dr Newman presented a separate report on this subject (MS)

Mr Brown also presented a report on Secondary Batteries (MS)

On motion of Dr Walker the report of the Committee was received and referred to the Council for publication

"Notes on the Effects of High Frequency Electrical Discharges passed through the Body " by Prof Elihu Thomson, M A I E.E , of Lynn, Mass , was read by Dr Herdman

(*To be continued*)

The Ohio State Medical Society

Annual Meeting held at Columbus, May 15, 16 and 17, 1895

First Day—Afternoon Session

The Society convened in the Chamber of Representatives, State Capitol Building, Columbus at 2 P M , the President, D N Kinsman, M D , occupying the Chair

Dr W T Howard, of Cleveland, Ohio, read a paper on

THE ANTITOXIN TREATMENT OF DIPHTHERIA

After considering the methods of arriving at a standard, giving preference to that of Behring as being the most accurate and dwelling upon the mode of production of antitoxin in the body and the manner of its action, Dr Howard continued as follows

From the beginning of the use of antitoxin in the treatment of diphtheria, there has been a marked lowering of the death rate Thus the German hospital statistics, with their mortality of from 35 per cent to 65 per cent showed under the influence of the new remedy, a mortality rate of from 11 per cent to 25 per cent Kossel reported 233 cases with a mortality of 23 2 per cent Katz reported 128 cases in Baginsky's wards a mortality of 13 per cent Virchow gave the treatment the weight of his authority when he reported 303 cases treated with antitoxin with a mortality of only 13 2 per cent , and 230 cases treated without antitoxin with a mortality of 17 8 per cent In Roux's first series of 448 cases there was a mortality of 24 3 per cent while at the same time the mortality from cases not treated with antitoxin in the Hospital Trousseau was 60 per cent Later Roux's mortality has fallen to below 10 per cent In Vienna 100 severe cases were treated with a mortality of 21 per cent Foster of Washington (*Medical News* Feb 2, 1895) has gone to the trouble of tabulating the comparative results of diphtheria cases treated with antitoxin and by the ordinary methods He found that in 2,740 cases—selected and unselected—collected from literature treated with antitoxin, 500 died a mortality of 18 51 per cent of 4,445 cases selected and unselected, and including as did the other cases upon which tracheotomy and intubation were done not treated with antitoxin 2,017 died, a mortality of 45 30 per cent Probably the most interesting series of cases reported in America is that of Biggs, in which 255 cases of diphtheria were treated in the Willard Parker Hospital and in the tenement houses of New York There were in these 255 cases, 40 deaths, or a mortality of 15 69 *per cent* If 15 cases in which death took place in less than twelve hours after the serum was administered are deducted, the mortality was only 10 4 per cent During the same period, according to the statistics of the Health Department, the mortality from diphtheria in New York was from 25 per cent to 35 per cent At the recent German Congress of Internal Medicine held at Munich, Huebner and Baginsky of Berlin, and Wederhofer of Vienna, among others, indorse the serum-therapy and note striking lowering of the mortality following its use The experience of the writer in the recent Ashtabula epidemic was gratifying In 40 cases treated with antitoxin there was a mortality of 7 5 per cent , while of 82 non selected cases occurring during the same epidemic treated by ordinary means the mortality was 27 per cent A series of 150 children with diphtheria treated with Roux's antitoxin, have just been published from Paris, with a mortality of 10 per cent The experiences of individual observers might be multiplied almost indefinitely The difference in the results obtained according to the day upon which treatment is begun, first emphasized by Kossel is striking It is however what, *a priori*, one would expect In Kossel's 233 cases, of those treated on the first day of illness 100 per cent recovered , on the second day 97 per cent , on the third day 89 per cent , on the fourth day 77 per cent , on the fifth day 60 per cent , on the sixth day 47 per cent , and between the seventh and fourteenth days 51 per cent The accumulated experience since Kossel's publication fully bears out his figures For instance, Foster, analyzing 2,740 cases, of those treated on the first day of the disease none died , on the second day the mortality is 2 83 per cent , on the third day 9 99 per cent , on the fourth day 20 per cent , on the fifth day 33 33 per cent after the fifth day 41 38 per cent The mortality is also always higher in children under 9 years than in children above this age and in adults

Clinical Observations—An early and rapid improvement in the general condition of patients treated with antitoxin has been noted by nearly all who have used the remedy The pallor and blueness of the countenance usual with diphtheria patients quickly disappears, or if the case is treated early in the disease this symptom does not develop Children with large masses of false membrane in their throats are bright and playful This improvement in the general condition, in the writer's experience often takes place in from twelve to twenty-four hours It is not uncommon to see severe and malignant cases sitting up in bed playing, within from twenty-four to forty-eight hours after the beginning of the treatment The earliest and a very characteristic effect is a marked improvement of the heart's action and of the pulse The heart beats are slower and the sounds louder The pulse falls rapidly in frequency, at the same time increasing in strength and volume In the writer's experience the pulse rate would fall even in the worst cases twenty beats in the first twenty-four hours In from twenty-four to forty-eight hours it was not unusual to find the pulse 80 or 90 per minute Often within fifteen minutes after an injection, a rise in the arterial tension was noted No change in the respiration due to the remedy itself is described, except in young children, in whom it may be accelerated The only effect upon the respiration is its improvement incident to the removal of mechanical obstruction, due to the presence of false membranes in the air passages

According to Roux, if the remedy is given at the very outset, the temperature rises only slightly above the normal In fully established cases of the disease the temperature falls in a marked manner, often on the day succeeding the first injection The fall is rapid, the temperature line descending almost vertically In severe cases the temperature fall is gradual, and it may not reach the normal for several days When the temperature remains high, in the absence of mixed infection, it is usually to be regarded as an indication for more of the remedy In the writer's experience the fall in the temperature was usually marked In mild cases and in cases of medium severity this fall was usually sudden, in severe and malignant cases it was more often gradual

The changes in the local lesions are marked and striking In the writer's cases, for the first twelve to twenty-four hours there was no change in the appearance of the false membrane In severe and malignant cases, it sometimes was increased during this period But usually its formation ceased within twenty-four hours after the first injection Generally after the first twenty four hours the false membrane lost its dry, opaque grayish appearance, and became moist, somewhat translucent and milky white Slight filmy false membranes would rapidly disappear The thick false membranes in from twenty-four to forty-eight hours begin to separate both from the surface and from the borders It is quite characteristic to see the false membrane curling up and separating at the borders, where it joins the mucous membrane of the part The false membrane disappears in the majority of cases by the third day It may disappear earlier or later, as late as the seventh day in our experience The swelling of the cervical glands usually begins to subside before the disappearance of the false membrane The glands, however, not infrequently remain somewhat enlarged and tender and appreciable to the touch for some time If the glands are not already swollen at the beginning of the treatment, they do not usually enlarge

Some observers have held that diphtheria antitoxin causes albuminuria This is one of the most actively investigated questions now in the antitoxin treatment of diphtheria Much will depend upon its decision The question is a very complex one, for it is well known a very large proportion of severe cases of diphtheria, treated by any mode of treatment, have more or less albuminuria According to v Jaksch, all severe cases of diphtheria have albumin in the urine The injection of large amounts of the antitoxin into dogs has failed to produce albuminuria The presence of the carbolic acid used to preserve the antitoxin has been objected to as a possible cause of nephritis But it has been found that the injection of carbolic acid in solutions of the same strength used in the Behring antitoxin causes neither albuminuria nor nephritis in dogs Altogether, the weight of evidence points to the conclusion that diphtheria antitoxin lessens the percentage of cases of albuminuria in diphtheria and does not cause nephritis It will, however, require the study of a large number of carefully investigated cases to settle this, as well as other mooted points Roux is positive that albuminuria is less common when antitoxin is used Most observers hold that albuminuria existing before the antitoxin was given is not only not augmented, but is soon lessened and disappears

From the beginning, it has been asserted by all, that cases of mixed infection fail to show the rapid improvement under the influence of antitoxin, so striking in cases of pure diphtheria The antitoxin does not seem to increase the immunity against the organisms of mixed infection (the streptococcus and staphylococcus), in the slightest degree However, it appears to be established that cases treated early with antitoxin are much more liable to escape mixed infection than cases coming late to treatment or treated by ordinary means It is also established that cases of mixed infection do better under the antitoxin treatment than under any other The explanation here is that if the diphtheria toxemia is eliminated from the case, the body is in a very much better condition to struggle against the microörganisms causing the mixed infection, and the patient's chances are improved by that much Clinical observation on this point has been substantiated by Roux on animals It may be said that while antitoxin when given early very much lessens the chances of mixed infection, any considerable lowering of mortality in cases of well-established mixed infection is not to be looked for

When antitoxin is used, the proportion of cases of "descending croup" is very much diminished Results show that intubation is very much better adapted to cases of laryngeal diphtheria, whether primary or secondary, than is tracheotomy The tube is quite sufficient in the large majority of cases to keep the air passage open until the false membrane is thrown off Intubation is to be looked upon as the "complement of antitoxin" Several cases of recurrence of diphtheria after the use of antitoxin have been recorded Gaebel reports two such cases The re-infection occurred in one case on the twenty-seventh and in the other on the twenty-eighth day Both cases rapidly yielded to injections of antitoxin

The amount of antitoxin given must depend upon the effect produced in each individual case The best guides are the effects upon the pulse and the false membrane According to Ehrlich and Kossel, the amount necessary is from 400 in light cases to 1,000 to 1,500 antitoxin units or more in severe cases The amount in cubic centimeters will vary with the strength of the preparation For instance, 1 cc of the Behring No 1 contains about 60 antitoxin units, 1 cc of Roux's from 50 to 60, 1 cc of the Behring No 2, 100 The antitoxin used at Ashtabula was found by Dr Arey, in my laboratory, to have an antitoxic value of 60 units Janowski has found Aronson's antitoxin about the same strength as Behring's No 2 Some of the antitoxin obtained from the horses of the Health Department of the city of New York is stronger than Behring's No 3 Kinyoun, of Washington, has also obtained a very strong antitoxin

The remedy is to be injected subcutaneously with a large hypodermic syringe, of from 10 to 20 cc capacity It is of the utmost importance that the syringe should be kept sterile Several special syringes with asbestos sponges which will stand steam or hot dry air disinfection have been invented But probably the one most generally used will continue to be the old style syringe with the leather plunger This can be quite safely sterilized with a thorough washing with a 5 per cent carbolic acid solution before and after using The skin at the point of injection should be cleansed and sterilized It is probably not necessary to use a dressing after the injection, though it can do no harm In the experience of the writer, the buttock is at once the most accessible and least painful point for injection It is usual to give in severe cases 1,000 antitoxin units at once and to repeat in twenty-four hours One may, however, divide the dose and give half at first and the rest after ten or twelve hours Mild cases usually require only from 400 to 600 antitoxin units Severe and malignant cases often require from 4,000 to 5 000 or more It does not seem to make much difference whether the antitoxin in solution is concentrated or diluted, provided always the necessary number of antitoxin units are given Other things being equal, however, it is better to use an antitoxin of a high immunity grade High temperature, rapid pulse and symptoms of toxemia, unless clearly due to mixed infection, are always indications for more of the remedy

For the production of immunity, small doses are sufficient From 60 to 400 or 600 antitoxin units are usually given The size of the dose will depend upon the body weight and age The artificial immunity thus produced lasts for a variable time, from a few days to six or more weeks In a diphtheria-infected household, every one should receive immunizing injections If others take the disease after a few days the injections should be repeated Almost invariably individuals contracting diphtheria after these injections have mild cases, which yield readily to small doses of antitoxin

Nearly all of the dread sequelæ of diphtheria are either entirely absent or very mild in cases treated with antitoxin The proportion of cases having paralysis is very much reduced In the forty cases of which the writer has notes there was only one case of paralysis, while in cases in the same epidemic treated by the ordinary measures paralysis was common Heart lesions, both mural and endocardial, are very much less common in the antitoxin cases In the writer's forty cases, in only three was there cardiac irregularity following the disease All of these cases made rapid and perfect recoveries One case, however, in which treatment was not begun until the sixth day, died suddenly of acute dilatation of the heart

With the earlier disappearance of the false membrane in antitoxin treated cases, it is probable that the diphtheria bacilli disappear earlier from the throat than in cases treated by other means However, there is not enough evidence at hand to decide this point The writer's experience has not been sufficiently large to draw positive conclusions It will take the study of a large number of cases to arrive at a definite solution of the question Cases should be isolated until they have been proved free from diphtheria bacilli By immunizing individuals in diphtheria infected houses, epidemics of diphtheria can be rapidly controlled Although in cases coming early under treatment, antitoxin may be regarded as a specific against diphtheria in some cases especially cases treated late in the disease and in cases of mixed infection, the use of other measures the value of which is well established, should not be neglected The writer has seen such cases, which in his opinion would have certainly died but for the timely use of stimulants An abundance of good food is of the highest importance It is advised to gargle or to spray the throat at short intervals with some mild non-corrosive antiseptic solution In the opinion of the writer, copious irrigation of the affected surfaces would be more efficacious It seems probable that as ordinarily used the local application of antiseptic agents is of little value In many cases, certainly, they do not reach the source of the trouble, which lies buried in the false membrane As the latter is thrown off under the influence of the antitoxin, the proper use of antiseptic solutions is of the highest importance, as the diphtheria bacilli can then be reached and acted upon Although the bacilli may not be killed outright, their virulence is at least very much lessened After the disappearance of the false membrane, it is important to destroy diphtheria bacilli remaining in the throat, thereby not only lessening the chances of the patient infecting others, but very materially shortening the period of quarantine The ideal treatment of diphtheria in the future must aim first at the destruction of the infectious agents *in situ*, and secondly at counteracting the poison absorbed into the system The latter requirement is undoubtedly filled by the antitoxin The first is apparently accomplished by the early and frequent application of the solution recommended by Löffler The use of this latter agent is very promising in cases of mixed infection Recently the streptococcus antitoxin has been successfully used in the treatment of puerperal fever, erysipelas and other streptococcus infections If these results are confirmed by others, a great step forward will be made in the treatment of mixed infections in diphtheria

From the first it has been observed that a certain proportion of cases treated with antitoxin, after from three to fifteen or more days developed painful skin eruptions, usually urticaria and erythema multiforme The occurrence of joint and glandular swellings and severe muscular pains is met with in a certain proportion of cases These with the skin eruptions appear to depend rather upon the preparation of antitoxin used and the individual susceptibility of the patient than upon the size of the dose Their occurrence is not to be looked upon as due to the presence of infectious agents in the antitoxin, but to some unknown chemic body in the horse's blood serum which is poisonous for certain human beings Although the symptoms produced by the poison are distressing, they are not dangerous to life and disappear without treatment in a few days

In the diphtheria antitoxin we have a specific for the diphtheria poison when applied early in the disease, and the later the use of the remedy the greater the mortality The agent is antitoxic and not bactericidal in its action, in the sense that it kills diphtheria bacilli present in the affected part

Dr F D Case of Ashtabula, Ohio, read a paper on

A CLINICAL REPORT ON THE DIPHTHERIA EPIDEMIC AT ASHTABULA

As the title of this paper implies, it is not my intention to write a systematic essay on diphtheria but rather to present the salient points of the recent epidemic at Ashtabula, the following distinctive features of which make it worthy of your attention

1 It is one of the few well authenticated instances of an extensive epidemic of diphtheria due to infected milk [1]

2 It was the first epidemic of the disease in this country in which a general use was made of antitoxin and an opportunity afforded to contrast the result with other accepted modes of treatment

Most of the time, for three years or more, there have been cases of diphtheria in the first and sixth wards which adjoin Lake Erie and contain a large foreign population employed on the coal and iron docks Among these people the enforcement of quarantine restrictions is extremely difficult The disease was of a severe type with large mortality In these wards in 1891 there were three deaths from diphtheria, in 1892 seven deaths, in 1893 nineteen deaths, and in 1894 nineteen deaths During these years up to September, 1894, the other four wards were entirely free from the disease In September and October 1894 there were eight cases confined to a small section of the fourth ward This was speedily stamped out, no cases being reported from that ward in November

The first case ushering in the epidemic under discussion, resided on West Street in the fifth ward and was taken ill Dec 4, 1894 December 5 there were six additional cases located on Bell Street in the third ward Center and Henry Streets in the fourth ward, and Bond Street in the fifth ward On the 6th, eight more cases was taken ill on Station Street in the second ward, and on Center, Henry, Gary, Main, Tyler and Chestnut Streets in the fourth ward On December 8 it was estimated that there were thirty cases in the second third, fourth and fifth wards of the city The first death, that of the first person taken ill, a lady 30 years of age, occurred December 9 On the 10th it was estimated that there were forty cases in the four wards mentioned, and the Board of Health declared the disease epidemic in that part of the city south of the main line of the L S & M S Railway The public schools in these wards were ordered closed

The simultaneous occurrence of such a large number of cases excited great alarm on the part of the public, and led to a rigid investigation on the part of the health authorities

For two weeks previously a model of a Swiss village had been on exhibition, both day and evening, at 235 Main Street Hundreds of children from the infected first and sixth wards as well as from the other parts of the city had been in attendance and the opinion soon became general that this furnished an explanation of the sudden outbreak of the disease An investigation showed this theory untenable, as a large number of those taken ill had not visited the exhibition The sewerage and water supply were each in turn inquired into and found free from suspicion

When attention was called to the food supply it was found that all cases up to December 10 were in families that procured milk from a wagon of Smith's milk line, driven by Henry Smith An inspection of Smith's dairy showed the cows to be in good condition and free from any indication of disease They were supplied with pure spring water and the barns and yards were in good sanitary condition Henry Smith driver of the wagon that supplied the infected families, was suffering from sore throat as early as December 2 and perhaps a day or two earlier He continued on the wagon, however, except on the 5th and 6th, when his place was taken by another man

December 12 The Health Officer reports that since December 4 there have been forty-nine cases of diphtheria reported, forty-seven of which were in that part of the city south of the L S & M S track Of the forty seven cases, forty-five are in families that used Smith's milk By resolution of the Board of Health, Smith was prohibited from delivering milk for fifteen days after December 11 In this connection the following cases are of interest

Mr P and his two sons aged 6 and 12 years, were taken ill with diphtheria in the early morning of December 5 Mrs P had gone from home December 3, and was at this time in Binghamton, N Y On the evening of December 2 they all partook freely of milk for supper The milk was procured of Henry Smith Other members of the family did not use the milk and did not contract the disease,

Mrs S usually procured her supply of milk from another source, but on the morning of December 2 purchased one quart of Henry Smith December 5 and 6 she was ill in bed with sore throat but did not call a physician On December 19 her son, aged 14, was taken ill with diphtheria, received the antitoxin and recovered There had been no known exposure to the disease except from the mother

Many instances like the above could be cited It is true that the evidence pointing to infected milk, as the cause of the epidemic is entirely circumstantial, since after repeated examinations the bacillus of diphtheria was at no time found in cultures from the milk or from the throat of Henry Smith Yet most of our opinions in clinical medicine and therapeutics, like most decisions in law, are based upon circumstantial evidence As Chief Justice Gibson has said "You see a man discharge a gun at another, you see the flash, you hear the report, you see the person fall a lifeless corpse and you infer from all these circumstances that there was a ball discharged from the gun which entered his body and caused his death, because such is the usual and natural cause of such an effect But you did *not* see the ball leave the gun, pass through the air and enter the body of the slain, and your testimony to the fact of killing is therefore inferential, in other words circumstantial It is possible there was no ball in the gun, and we infer that there was, only because we can not account for death on any other supposition"

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[1] See Powers report to Local Government Board Universal Med Sci, Vol v, p 230 also Clark's report in same

It is true that many persons used milk from this same wagon who did not contract the disease It is of course not known whether every can of milk on a given day was infected and if such was the case the inherent resisting power of many persons to infectious disease would explain the exception The array of a large number of negative cases—those in which exposure is not followed by disease—is of little importance, unless at the same time an explanation having more elements of probability is at hand The chances of such a series of admitted coincidences not due to a common cause is too small for calculation

In Watson's "Practice of Physic," in the chapter on Continued Fevers is the following· "A man might say, 'I was in the battle of Waterloo and saw many men around me fall down and die, and it was said they were struck by musket balls, but I know better than that for I was there all the time and so were many of my friends and we were never hit by any musket balls Musket balls therefore could not have been the cause of the deaths we witnessed' And if, like contagion they were not palpable to the senses, such a person might go on to affirm that no proof existed of there being any such thing as musket balls"

December 13 Dr Miller of the State Board of Health, accompanied by Dr W T Howard Jr, Professor of Bacteriology in the Western Reserve University, arrived for the purpose of investigating the epidemic December 11 The Board of Health authorized the Health Officer to procure from the Pasteur Institute, New York, a supply of antitoxin Health Officer reports to date sixty-four cases in forty-two families with eleven deaths December 16 A quantity of antitoxin was received and administered to three cases December 17 To date sixty seven cases, forty four houses quarantined, thirteen deaths December 18 Seventy-five cases, forty-seven houses quarantined, fifteen deaths December 21 Eighty seven cases, fifty-one houses quarantined, eighteen deaths December 22 Ninety cases to date, twenty deaths Forty-seven patients convalescent, twenty three under treatment December 28 The Board of Health declare the epidemic at an end There are still seventeen cases under treatment, most of them for sequelæ

There were 111 cases and 23 deaths during the month of December, 1894, of which 100 cases with 21 deaths were in families supplied with milk from the wagon driven by Henry Smith The public schools reopened January 7, after a vacation of four weeks

From the beginning of the epidemic, a rigid quarantine was enforced against the sick and all coming in contact with them The convalescent were discharged from quarantine only after four weeks detention, unless a bacteriologic examination showed them to be sooner free from the disease All infected houses were disinfected under the direction of an employe of the Board of Health The adequacy of the means employed is evidenced by the fact that with over fifty houses quarantined there was no general spread of the disease, and in twenty-four days from the time the first patient was taken ill and eighteen days after the disease was declared epidemic, the Board of Health were able to declare the epidemic at an end

Of the total number of cases of diphtheria occurring in that section of the city in which the disease was epidemic, I have received a detailed report of eighty two cases Of these fifty-nine cases received the usual treatment with iron, chlorate of potash, quinin and whisky internally, and peroxid of hydrogen or bichlorid of mercury as a spray Of these forty-four recovered and fifteen died

Of five cases treated with bichlorid of mercury and whisky internally and peroxid of hydrogen and lime water as a spray, four recovered and one died, or 20 per cent mortality

Of eighteen cases treated with antitoxin, sixteen recovered and two died, or 11 1 per cent mortality

In order to secure a broader field for comparison, I have obtained a report of 48 additional cases occurring in the city between Dec 1, 1894, and April 15, 1895, making a total of 130 cases occurring in the practice of ten physicians An analysis of these cases gives the following result

Total number of cases of diphtheria treated, 130

DETAILS OF TREATMENT

	Ages of patients			
	Under 2 years	Between 2 and 10	Over 10 years	
54 treated with serum				
Recovered	2	26	22	—50
Died	1	1	2	— 4
76 treated without serum				
Recovered	2	15	41	—58
Died	1	9	8	—18

Average age of those treated with antitoxin, 12 years

Average age of those treated without antitoxin, 18 years.

Cases treated

Bacteriologically proved to be diphtheria	47
Of these, treated with antitoxin	29
" " " without "	18
Not bacteriologically determined	83
Of these, treated with serum	25
" " " without "	58

Amount of serum used to each patient varied from 12 to 118 cubic centimeters,

All the cases recovered that were treated with antitoxin before the fourth day of illness

The foregoing statement, while statistically correct, would be to a certain extent misleading without further explanation In all the fatal cases the antitoxin treatment was begun after several days' illness

Case No 1, a boy 12 years of age, had been ill six days, was profoundly septic and had diphtheritic laryngitis which later necessitated intubation He lived two days after the first dose of antitoxin

Case No 2, a young lady, age 28 years, had been ill six days and had received during that time the iron treatment. Like the previous case, she was suffering from both diphtheritic laryngitis and septicemia when she received the first injection of antitoxin She lived five days after the first dose

Case No 3, a child four months old, received the antitoxin on the fourth day It died of septicemia on the evening of the third day thereafter

Case No 4, a child 3½ years old, suffering from diphtheritic laryngitis, received an injection of antitoxin on the fourth day after the development of croupy symptoms Intubation was done the evening of the same day She lived three days and died septic This child had had sore throat with swollen glands for several days previous to the beginning of the laryngitis, but a physician was called only when suffocation was imminent

In the *opinion* of the attending physicians, life was prolonged in each of the fatal cases by the use of antitoxin The two first cases were almost in *articulo mortis* when the remedy was injected, and yet lived two and five days, respectively, and in the latter case with good prospect of recovery

In cases not treated with antitoxin, heart failure, occurring about the time of or shortly after the disappearance of the membrane, was a frequent cause of death In one case death in a patient 40 years of age was due to a piece o membrane being drawn into the larynx during a violent fi of coughing In another case a violent urticaria develope on the tenth day of illness and was followed two days late by persistent vomiting and threatened heart failure Patien recovered

The most frequent sequelæ in cases not treated wit antitoxin, were paralytic in character These varied in de gree from slight aphonia or difficulty of deglutition t complete hemiplegia Difficulty in locomotion, somewha resembling the gait in ataxia, was observed in two case Double vision in two cases Irregularity or intermittence c heart's action was frequent In one case the symptoms wer so alarming that the recumbent posture in bed was insiste on for a period of two months Patient made a good reco ery Hemiplegia occurred in the case of a young lady 1 years of age, and was accompanied by aphasia There wa no loss of sensation Motion of upper extremity is st confined, after five months, to flexion and extension of wr and fingers and supination of forearm

The sequelæ following antitoxin treatment were in ge eral quite different in character, but in two instances whe it was not given until after the third day, mild paralyt symptoms were developed Urticaria was reported in seve cases and was probably present in some degree in othe

Rheumatism was reported in five cases and was in some instances quite severe for several days Both urticaria and rheumatism also followed the use of antitoxin for immunization Slight inflammation of the joints was reported in two cases In no instances have abscesses followed the use of antitoxin, nor have there been other local symptoms save mild erythema and some muscular soreness at the point of injection Nor in a single instance have the constitutional effects of the antitoxin been such as to cause the slightest anxiety to the attending physician

In most cases all other treatment has been omitted after the antitoxin was given, but in a few instances whisky was administered and an antiseptic spray used locally There is no question in therapeutics upon which the local profession are more fully agreed, than upon the efficiency of antitoxin in diphtheria

All the serum used at Ashtabula was procured of the Pasteur Institute, New York

I regret that there is occasion to call in question many of the statements in an article entitled "A Dangerous Antitoxin," which appeared in the March number of the Cleveland *Medical Gazette* Similar statements emanating from the same authority, have appeared from time to time in the public press In the *Gazette* article the writer says 'Through the courtesy of Dr A W Hopkins Health Officer at Ashtabula, Ohio, I received a sample of a diphtheria antitoxin which had just been received from New York This antitoxin was obtained from the same source as the supply which had been employed during the epidemic at Ashtabula a short time previously Dr Hopkins informed me that he took the sample from a freshly used bottle and then transferred it inadvertently to an empty bottle which had previously contained some of the same material"

Now, the facts are, and Dr Hopkins authorizes the statement, that the empty bottle to which the fresh sample was transferred, had lain uncleaned in a warm room from four to six weeks He further says that he informed the writer of the papers before their publication, of the facts and apologized to him for sending the serum under such conditions, "even to inject guinea pigs" If we recall the fact that blood serum furnishes one of the very best culture media, it will not excite surprise that an examination of other bottles kept under like conditions shows in every instance the adherent serum to have undergone putrefaction The serum is described by the writer as "a thick slightly yellowish fluid containing a pronounced flocculent white precipitate, and it had a strong odor of camphor" Dr Hopkins tells me that out of the whole amount of serum used in Ashtabula about 100 bottles of 25 cubic centimeters each, in not a single instance has there been a precipitate even on keeping six or eight weeks, and in no instance have the results of a dose so long on hand been different from those of a fresh article I think you will agree with me that the exhibition of serum obtained under such conditions that it could hardly escape infection, scarcely called for such startling head lines in the public press as the following "Putrid Antitoxin The Stuff used in Ashtabula A Doctor's Discovery" Or the following "Swarms of Bacteria They are Found in a Sample of Antitoxin Such as Has Been Used at Ashtabula" But I will not weary you by a further discussion of the papers in question (since perhaps the author belongs to a class so pithily described by Dr Holmes as being "always positive and sometimes inaccurate") We are still using the same brand of antitoxin in the cases that are of frequent occurrence in the first and sixth wards

In conclusion, I would summarize our present knowledge of diphtheria as follows

Diphtheria is an acute specific contagious and infectious disease

It is primarily a purely local disease, caused by an external parasite—the Klebs Löffler bacillus

The condition necessary for the production of the disease is the presence of the bacilli in quantity and activity sufficient to overcome the individual's power of resistance

Diphtheria always results, either directly or indirectly, from a previous case, but unsanitary conditions have a great influence on the propagation and virulence of the disease

As a rule, one attack confers immunity for a limited period

The constitutional symptoms are due to the absorption of the poisonous products of the primary disease from the local lesion

Changes occurring in the blood and tissues, and the various sequelæ, are caused by the direct or indirect action of the toxins or toxalbumins

And finally, the discovery or rather the development of the antitoxin treatment of diphtheria is the greatest achievement of modern therapeutics

DISCUSSION

Dr H M W Moore, of Columbus—Beginning with December last, I have examined for the Health Board here in Columbus some eighty one cultures, made at the bedside with the ordinary outfit Of these cases, thirty were diphtheria and fifty one were something else The system of distribution of test tubes was to leave them in drug stores, and the outfits were collected by the Health Officers as they came in, in the evening Under the extreme poverty, this was perhaps the best plan that could be adopted However, the Health Officer was not likely to pass a drug store or call in immediately after test tubes were left, and it was often forty eight hours before test tubes came into my hands after they were inoculated That period was too long but the system was probably the best that could be adopted under the circumstances

Dr J S Haldeman, Zanesville, Ohio—I find upon close observation and comparison, that the European and American hospitals do not differ very materially in their percentum rate of mortality This new method has drawbacks, and great ones, which the old one has not It has them in the manner of its manufacture, the cost attending its purchase and administration, and in not being able to furnish it in sufficient quantities, and in due time for use in city, town and and country By the old method, all places can be penetrated and all classes reached and satisfied Now, which should we adhere to, the impracticable or the practicable? Wisdom says, the latter Let us improve it, if possible The mortality rate is not high in my own practice, which covers a period of about forty one years During that time I have practiced in several diphtheria epidemics In the year 1878, when I was physician to the John McIntyre Children's Home, Zanesville Ohio, there were thirty of the inmates down with it at one time, in its most malignant form All recovered but one, and the matron thought he would have recovered if they could have made him take the medicine This was a mortality rate of a small fraction over 3 per cent Furthermore, I never lost but one patient in a family, and never in more than two families in the same epidemic However, some practitioners in the same epidemics lost whole families

Dr E B Fullerton, of Columbus—I doubt very much whether we are to have in America the reported fatality of this disease in European countries, 40 to 60 per cent I doubt whether in Columbus, Ohio, it has ever much exceeded 25 per cent In some thirty cases there were but four deaths, that is 18⅓ per cent In New York, Dr Jacobi said the epidemic last winter, in his belief, would not, under the ordinary treatment, exceed 25 per cent mortality It has been claimed to be but 23 per cent under the serum-therapy Reasoning deductively we would take the serum as the least vitalized substance in the body, consisting principally of water and a few salts How is the effect produced? Does it act as a poison to the microörganisms? Or, do we obtain a good result from it because it feeds the phagocytes? What has been the effect upon statistics, as to mortality, of methods of diagnosis? Have not there been introduced a larger number of cases under the same title? If we, by bacteriologic examination introduce many mild cases, we can easily reduce the percentage of deaths under any treatment Was Henry Smith, who distributed the milk among the cases that recovered, or, was he among the mild cases, which ordinarily would be called something else? I know when I was in Columbus even good physicians would reserve their diagnosis until they knew whether the patient would die or not By introducing these mild cases is there not a chance for fallacy in the statistics? I have long believed the ordinary treatment of diphtheria is fallacious What good can the tincture of iron do? We know iron is very little assimilated, it requires days, or perhaps weeks What is the use of giving chlorate of potassium? One man has died under it, and we know that it is an irritant upon the kidneys The tearing off of the membrane and the application of caustics is, in my opinion, faulty I have had very little trouble with diphtheria since I have quit using these means, and have not used quinin

Dr I S Ebright of Akron—Because Smith did not die, but got well, after he distributed diphtheria in Ashtabula, does not argue that you must not give certain remedies I have been passing through an epidemic of diphtheria, where the antitoxin has been used in some cases, and in some cases it has not been used I am physician in the Children's Hospital at Akron, and am also Health Officer, and have had an opportunity to study the epidemic since the fourth day of

March On March 21 I saw a boy with what I believed was diphtheria Afterward I found him convalescent Later, I found a boy who had scarlet fever On the 28th the nurse was aroused by a peculiar cough from this boy I was called at 5 o'clock and saw him at 6 I diagnosed diphtheria My prognosis was unfavorable The boy died March 30 In that hospital there were forty boys occupying a common bedroom, and sixteen girls in another common bedroom, and the children in the nursery in a common bedroom, and all eating in a common dining-room I went to Cleveland, and Professor Ohlmacher came back with me on Saturday We began with the antitoxin, and from the time we began using it in that hospital and in my private practice, I have not had a case of diphtheria, except two, that have not been examined bacteriologically, and there has not been a case but cleared up within twenty-four to forty eight hours There has not been a child, out of twenty-seven cases I have seen but could drink from a bowl of water shortly after introducing the antitoxin, as well as any time before the attack For instance, a colored boy, 7 years old, was seen on Friday when he was so hoarse he couldn't speak above a whisper, temperature 103 2°, pulse 140 He looked like ashes I fully anticipated he would follow the way of the white lad who didn't get any of the antitoxin I gave him 5 ccm, and afterward 5 ccm more, and at 4 o'clock the next day he sat up and sang with a clear voice A German child, 7 years old, who had worn a tracheotomy tube since January 9, was seen by me on Thursday I believe the tracheotomy was performed for polypi in her throat When I saw her, her pulse was 140, and she had all the evidences of diphtheria I gave 10 ccm of the antitoxin at 4 o'clock in the afternoon The next morning her throat was clear, and she has not taken a dose of medicine since I saw her yesterday, sixteen days afterward, and she is well

Dr J A Murphy, of Cincinnati—There are hardly two cases in any epidemic, or under any circumstances that are alike Take cholera or scarlet fever for instance And I have heard men, years ago, stand up in Cincinnati and say they never lost a case, and lo and behold, there comes an epidemic and they lose every case they have Now, take this disease, diphtheria We have a mild epidemic and the diagnosis is made by the good old practitioners who from their experience are able to make a clinical diagnosis Few cases are lost Then comes another epidemic and about one half the cases will be lost The Doctor has claimed the most remarkable results within forty eight hours, or even less Sir, he has had a very rapid action from this antitoxin injection, which is contrary to what I have read from others and what I have been told in the city of Cincinnati

Dr Case has laid down a proposition that these children, or a large number of them, contracted the disease from the man who carried milk around He has given us no results of a bacteriologic examination of that man's throat If he had diphtheria, how would the bacilli get into the milk? Would he spit them out? (Remark Perhaps he drank out of the dipper) Now, our friend says, if you get a Löffler bacillus in the throat you are sure to have the diphtheria Why, gentlemen, these bacilli are found for six weeks after the clinical manifestations of the disease are gone, and further, they are found in the normal throat Now, there must be some little phagocyte or worm or bug, very virulent, which afterward destroys this Löffler bacillus weeks after the patient has had diphtheria, or where he has not had diphtheria Now, if you find two or three, four, five, or six of these bacilli in the mouth, what does it mean? Should the patient have antitoxin? Will he have diphtheria? Will our friend from Akron propose to throw in 5 ccm of the antitoxin? He says patients with Löffler bacilli in the mouth or nose are in danger Of what? Of the toxins these bacilli make, and these toxins producing sepsis

Now, the next point The bacteriologist with skilled eye and a good microscope fails to find the Löffler bacillus in a good many cases of diphtheria Such cases are diagnosed by your old-fashioned practitioners from clinical experience and observation The gentleman who used the microscope to make a bacteriologic examination, will not deny that these are cases of true diphtheria, and yet he will stop and say, "I don't know," which is a very proper answer Now, this is one of the conundrums Facts often lie, but the quickest liars are figures What has taken place in Germany? Hundreds and hundreds of people have rushed with their children to the hospitals, with mild and with malignant cases, greatly lowering the mortality The same thing takes place without the antitoxin treatment A hospital in New York has been mentioned It has been said the statistics of that hospital in the last four or five weeks have had a doubt thrown upon them In all these cases nothing is said about the local treatment and about stimulation Dr Eichberg said, when I asked him directly "By no means will I throw aside the local treatment, peroxid of hydrogen, the iron and perhaps the bichlorid of mercury" Now comes the question which Dr Ohlmacher has stated, about the manufacture of this antitoxin How long is it safe? Who can explain the death of the woman the other day, in a very short time after the use of the antitoxin? If Dr Ohlmacher's statement is true, this antitoxin ought to be put in a refrigerator and not kept long, but carried to the place and used immediately And nothing has been said as to whether these are the sequelæ or the consequences of diphtheria pneumonia, albuminuria, bronchitis and various other conditions which have immediately followed the antitoxin treatment

Dr J North, Toledo—It has been said that figures lie I believe there is a mistake in that Figures do not lie, but figurers do lie There has been a great deal quoted about the statistics of the past and the statistics of the present I believe the statistics gathered during the last few months are the only ones of any value, because before then everything was reported as diphtheria, and now we know what is diphtheria and what is not diphtheria Regarding the good results of antitoxin Virchow, who was at first very skeptical about it finally admitted the use of the antitoxin in his hospital in Berlin After a time the supply of antitoxin was exhausted, while he was out of the city, and when he returned, about two weeks afterward, he found the mortality had increased to almost double what it was before, he went back to the use of the antitoxin, and the mortality went down to where it was before, when they used it With such reports I think we can not go back on the figures I have had no experience whatever in the use of antitoxin, because in Toledo we have had very little diphtheria since the antitoxin has come into use But I believe in the use of it I think the statistics justify it Some one spoke of a woman who died from it, but for every one who dies from the antitoxin you can find a hundred graves marked diphtheria And then in connection with diphtheria we have the staphylococcus, which complicates the cases very much, and only recently we have an antitoxin for such cases Where this antitoxin has been used, almost every case has recovered Now, with the combined treatment of the diphtheritic antitoxin and the staphylococcus antitoxin, I think we will be able to save a much larger proportion of these cases Because, statistics tell us, that where the Klebs-Löffler bacillus is found alone, we have much better results than when complicated, and if we have an antitoxin to counteract the other bacilli, we have something of very great value

Dr Joseph Eichberg, of Cincinnati—No question can be discussed, except by those who have had experience, and they are almost unanimous in favor of the antitoxin treatment of diphtheria It is not fair to judge of its success from its effect in cases which would certainly die under any treatment On the other hand, we should not say that more mild cases are being cited for this plan of treatment than heretofore Nor does it change the position because the gentlemen who have had recourse to this treatment have retained the local treatment Even with all these measures of treatment, cases have succumbed Nevertheless the antitoxin treatment will save many cases Such beneficial results were cited by the gentleman from Akron The same results have not been obtained by any other remedy The change in the appearance of the throat in twenty-four hours is almost magical, and it would be difficult for one not familiar with the plan to believe it, if seeing were not believing There is no stronger argument, in my mind, as to the efficacy of the treatment than the statement by Professor Virchow, of Berlin On repeating the facts to the Pathological Society, Professor Virchow says we can not explain the action of the antitoxin on any approved therapeutic plan, but any physician is culpable who does not use it I would like to know Dr Murphy's way of gaining information as to the value of treatment in any disease, if not from the computation of statistics from many sources In the epidemic at Akron, where I believe seven out of twenty-seven cases died before the introduction of the antitoxin treatment, only one case died afterward, and it had not received the treatment until some two weeks after the invasion The longer we delay the treatment, after the appearance of local symptoms, the greater is the danger to the patient As to its curative properties, there can be no doubt in the mind of any one who has properly employed it, though its prophylactic value has not been clearly established

(To be continued)

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SATURDAY JULY 27, 1895

THE ACTION OF DIGITALIS ON THE HEART

At the session of the Académie de Médecine held July 2, M FRANCOIS FRANCK reported a series of experiments in which he had studied the action of digitalis on the heart, and at the same time the effect of different digitalins

On mammifera, administered in a therapeutic dose, digitalis produced uniform definite effects It showed the beat of the accelerated heart, it regulated the beat of the arythmic heart, and it greatly augmented the systolic power and the diastolic resistance

The author held that these effects were developed equally on the two sides of the heart, contrary to the views of M GERMAIN SEE, who thought that the action of digitalis was greater on the right heart, and contrary to the German physiologists who held that the drug's power was manifested on the left heart In a toxic dose he found that digitalis produced first an excessive slowing of the heart movement, but a special arythmic beat, which manifested itself by a dicrotic pulse Afterward, the heart accelerates itself secondarily, becoming irregular, the contractions are precipitated by a sort of semi tetanic ventricular movement interrupted by prolonged intermissions, finally causing death of the heart In mammifera, as in cold blooded animals, death is always produced in systole, and not in diastole, as has been affirmed

The mechanism which produces these effects is described M FRANCOIS FRANCK as 1, "the effects produced by the ventricles are not subordinate to a primary action on the auricles ," 2, " the action produced on the heart is not secondary to a primary action on the contractile vessels of the aortic system, as the gradual ascension of aortic pressure does not produce the same effects as digitalis, as those persist even when the heart is separated from the aorta ," 3, "the abatement of velocity produced by digitalis resembles neither that which is produced by suspension of the activity of the accelerator nerves of the heart, nor those produced by excitation of the heart moderators " "It seems then," says FRANCOIS FRANCK, "that the action of digitalis is first manifested on the cardiac muscular fiber "

In regard to digitalin, the author stated that the fatal dose of French chloroformic crystallized digitalin was 0 7 milligrams to the kilogram of animal weight That of the amorphous digitalin is tenfold greater, and that of German digitoxin is three times less

One gram of the infusion of the leaves of digitalis produces the same action as five or six grams of digitalin, although one can extract but one milligram of the alkaloid "It then seems probable," says the author, "that the active principles mostly reside in the leaf "

The infusion of digitalis has been a favorite method of administration in this country, because it has long been known that the digitoxin was the most active principle of digitalis, and it was believed that there were certain principles in the leaf that were not extracted by any of the existing methods FOUQUET[1] arranged the digitalins of commerce in two groups 1, those insoluble in water and soluble in chloroform, *i e* , crystallized digitalin, amorphous digitalin and digitoxin , 2, German digitalin and digitalein

The present paper of FRANCOIS FRANCK will clear up some of the doubtful points in the physiologic chemistry of the action of digitalis

THE GREATEST OF VIVISECTORS

The late PROF KARL LUDWIG is the subject of an earnest editorial in the London *Lancet*, based on a memoir by DR MOSSO of Turin The writer says that since the publication by MOLESCHOTT of his beautiful monograph on DONDERS, there has been given to the medical world no worthier *immortelle* to lay upon the tomb of a professional brother than Mosso's tribute to LUDWIG, his great master in physiology

The editor, having first considered the scientific achievements of LUDWIG, thus proceeds to comment upon the humane side of his character

"But on passing from LUDWIG the experimental philosopher to LUDWIG the man and the citizen, PROFESSOR MOSSO has much to tell the world of the deepest interest 'LUDWIG,' he says, 'the greatest of vivisectors, was President of the Leipzig Society for the Protection of Animals, and remained to the last, one of its most active members' Germany owes it to him that her horses and beasts of burden are now humanely treated To him is due that awakening of the true humanitarian spirit toward the brute creation that culminated in the 'Verband der Thierschutz-Vereine des Deutschen Reichs' (Union of German Societies for the Protection of Animals) It was mainly from her sense of the gentler attitude to be encouraged toward animals on the part of the rising generation, that Leipzig made him an honorary citizen on the fiftieth anniversary of his graduation in medicine 'No physiologist,' continues PROFESSOR MOSSO, 'has ever sought with greater frankness than he to impose just limits on vivisection The gates of his institute were ever open to all who wished to assure themselves that he, in the midst of his experiments, knew how to spare suffering The vivisector's art attained such perfection in his hands that, having to sacrifice an animal, he did not let it feel that it was even being tied He would apply the muzzle and instantly proceed to the exhibition of ether or chloroform, which in a few seconds, in a dog, for example, made it insensible It is an error,' adds PROFESSOR MOSSO wisely—'it is an error to believe that experiments can be performed on an animal which feels The perturbation induced by pain in the functions of the organism is so profound as to render useless the experimenter's study It was LUDWIG who uttered the celebrated *mot* that some physiologists, to study the nervous system, act like him who fires a pistol into a watch to see how the chronometer works Suffering ought to be entirely eliminated from physiologic experiment, because the instruments we employ to day are so delicate that they become unserviceable the moment the animal is agitated or moves'"

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[1] Bull, Gén de Thérap, Jan , 1892

The editorial of the *Lancet* closes with this eloquent peroration

"Illustrative anecdotes without number might be multiplied to prove the real humanity of LUDWIG—of the man who was denounced on anti-vivisection platforms as the 'arch-fiend' of the 'Nine Circles,' and as the keeper of the worst 'torture den' in Europe Well may the physiologist and the physician cry aloud, 'Humanity! what offenses are perpetrated in thy name!' PROFESSOR MOSSO's masterly 'full-length' of a biologist, a teacher, and a philanthropic citizen, surpassed by none of his generation, ought to send a thrill of shame through the promoters of a mischievous propaganda which, mistaking sentimentality for sentiment, and morbid hyperesthesia for sound feeling, would have tied the hands of one of the most beneficent students of nature who ever devoted his life to the healing art"

Blank applications for membership in the ASSOCIATION at the JOURNAL office Write for them

DON'T NEGLECT YOUR SUMMER OUTING

The *Medical Examiner* calls up the timely subject of the summer vacation for medical men Our profession is quick to deal humanely with its overworked clients, as clergymen, brokers and weary housewives, and ship them off, into the country or into the city, as the case may demand, but the physician is too frequently not so kind to himself The *Examiner* calls up the case of the late DR GOLDING BIRD of London, who is reported as saying that he had worked himself into an early grave by economizing six weeks in the summer

"The physician needs more active exercise and more sleep, too—fully seven hours—and as his sleep is often broken in upon at night, he should form the habit of sleeping at odd moments, even by day The folly of incessant work is illustrated by the case of the brilliant DR GOLDING BIRD, who, a few months before his death, remarked to a medical friend, when his own great popularity was mentioned 'You see me, at a little over 40, in full practice, making my several thousand pounds per annum But I am to-day a wreck I have a fatal disease of the heart, the result of anxiety and hard work I can not live many months, and my parting advice to you is this never mind at what loss, take your annual six weeks' holiday It may delay your success, but it will insure its development Otherwise you may find yourself at my age a prosperous practitioner, but a dying old man'"

THE ANNUAL RECKONING

The ASSOCIATION Treasurer announces that he is ready to send receipts for the annual subscriptions of members, who have not yet paid their yearly dues The month of July should see the Treasurer's books well settled, but we understand that there are very many delinquents The JOURNAL has been larger and better than ever before, and there is no valid reason why the annual dues should not be paid promptly On the contrary, with the very material reduction of the advertising which is now taking place there is every reason why prompt payment should be made

In response to certain statements made in the columns of some of our esteemed contemporaries, we think proper to inform them that immediately after the Baltimore meeting letters were addressed to every firm advertising medicinal preparations in the JOURNAL, informing them of the action of the ASSOCIATION, and requesting the publication of the formula Several of them have responded by sending the name and amount of each ingredient in the compound, according to the letter of the ASSOCIATION resolution, some have asked for time to consult absent managers, and some have refused Of the latter number one contract expired last week and has been discontinued Another expires this week, and the remainder will be dropped as fast as their contracts expire There need be no apprehension that the ASSOCIATION instructions in the matter of advertising will be forgotten or passed over without action

We once more take advantage of the occasion to urge upon the members the absolute necessity of strenuous efforts to increase the membership of the ASSOCIATION, not only to prevent regression, but to add more and more to the ever growing list We very much wish to pass the 6,000 mark within the next three months We are now issuing 5,700 copies every week, but as there are more than 100,000 physicians in the United States it is readily seen that the ASSOCIATION JOURNAL reaches comparatively few of them In England no physician considers that he is in good standing unless he belongs to the British Medical Association A similar *esprit du corps* in America would give us a membership of 60,000 at the very least With such an organization there could be no question of the immense influence that might be wielded by the medical profession in America

We have made gradual and steady increase for the last three years, but we must do more Let us once more make a united effort to gather into the grand old ASSOCIATION every eligible medical brother in the United States of America The doors are always open for the entrance of good men and they will be warmly welcomed by every man having the interest of the ASSOCIATION and of his profession at heart

AN EXPIRING CRAZE

The efforts made to bolster up the expiring KEELEY cure by special legislation last winter were in some few cases successful, to the extent of the passage of acts in its favor As a sequel we have in a neighboring State a county resisting payment of bills of a gold cure establishment for the treatment of pauper drunkards, and it is probable that the constitutionality of at least one of these measures will be fairly tested in the courts That a special proprietary secret method of treatment should be the recipient of State support, that the public funds should be drawn upon to pay for what is absolutely unknown, and is purposely kept so, lest its use should become extended, to the damage of its proprietor, or as one might naturally suspect, because it is feared that enlightenment as to its nature would damage public confidence in its virtue, seems a poor public policy, to say the least Looking at it entirely from an extra medical point of view, this would be the natural conclusion, and nothing but the most overwhelming evidence of its value, it would seem, ought to lead any one to support it With the legal possibilities in the case we have nothing to do, but it would appear not at all improbable that a higher court might find flaws in such legislation on constitutional grounds

One of the most interesting features of the subject, however, is the zeal of the believers in the gold cure for its extension and continuance Like the female homeopathic devotee, they make it a sort of a *cult*, and would apparently sacrifice anything for its propagation Of course, this would be naturally encouraged by the management of the cures, but it is in its way a psychologic phenomenon of interest One noteworthy feature is that the enthusiasm is sometimes most marked in striking instances of the non-success of the treatment, as in the case of the late FELIX OLDBOY

The non-success is revealing itself at the present time in various quarters and is becoming apparent to the laity as well as to the regular medical profession The painstaking investigation of the REV DR BUCKLEY, though to some extent affected by the fact that some of the data obtained by him were evidently from strong partisans of the gold cure, only led him to the conclusion that there was nothing in it more efficacious for the drunkard than is found in the numerous temperance revivals which make no pretenses to secresy, and which claim to act only through mental influence and the exercise of the will of the subject DR BUCKLEY's study has a decided value as that of a conscientious investigator, who could not possibly be charged with any professional prejudice against the so called cure, and yet who was compelled to reject its claims in spite of labored evidence in its favor

As regards medical evidences of its failures, one may say that they are coming to be in the experience of every practicing physician Out of fifty-eight patients treated in 1894 at DR CROTHERS' inebriate asylum, at Hartford, twenty-six were KEELEY graduates and eleven more had been under other so-called gold cure treatment

While we may consider inebriety, or perhaps we should say habitual drunkenness, in some cases and to some extent, a disease or the result of defective organization, the most natural conclusion one can deduce from the success of the gold cure craze, is that its successful treatment is more dependent upon moral and mental influence than upon medication It is to this undoubtedly that should be credited all the permanent cures that date from the KEELEY treatment

THE JOURNAL ITSELF

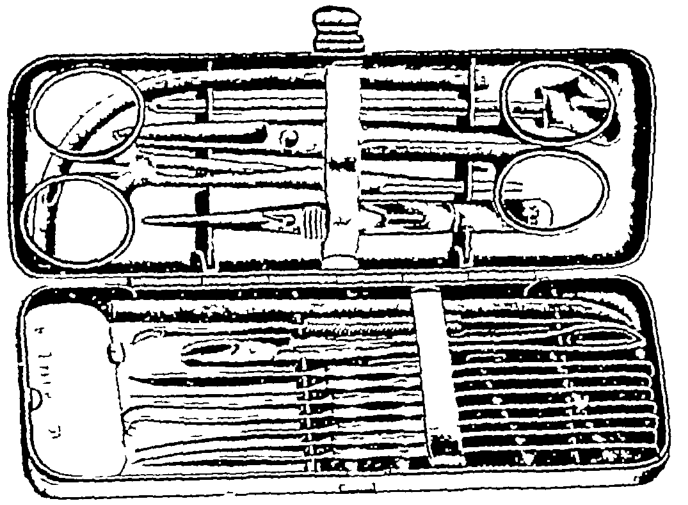
An old and valued member of the ASSOCIATION, whose opinion is greatly esteemed by the editor, was emphatic in his statement that the JOURNAL of last week was the finest number ever produced by the office The constant effort is that every number shall be better than its predecessors, and sometimes we think we have fairly succeeded But what our friend most commended was the plate in three colors printed in the JOURNAL office He has a set of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from the beginning, bound in uniform binding, and he said further that he was additionally proud of the JOURNAL now, because he as member of the ASSOCIATION is part owner of the great American medical weekly and its plant

He should, he said, take an additional interest in the ASSOCIATION, and could see what had for years been foretold, had now come to pass, that the ASSOCIATION JOURNAL was second to none in America This patriotic spirit now glowing brightly in the breasts of the American medical profession will bring organization, strength and power to our noble army of medical toilers, and a great reward Let us redouble our efforts to increase the membership, by every honorable means, that we may not only become the greatest Association in the world in members, but first in quality of work done, and first in amount of knowledge promulgated for the welfare of humanity

NEW INSTRUMENTS.

COMPACT POCKET CASE

The attempt to make the smallest pocket case, on modern lines, has resulted, with the aid of Truax, Greene & Co, in a case as represented in the accompanying sketch



The new instruments in the case are the angle tenotome, and the short aluminum probe

The cutting edge of the tenotome being on the inside of the angle, is very advantageous in dividing all tendons, but especially the smaller and deeper seated ones The case is of metal, and the instruments small and delicate The racks and partitions are movable, but the whole case can be boiled *in situ* without injury JOHN B HAMILTON

CORRESPONDENCE

The Woodbridge Treatment of Typhoid Fever

TOLEDO, OHIO, July 14, 1895

To the Editor —One extremely warm day I found upstairs in a one and a half story house a poorly nourished young unmarried woman, with a temperature of 105 degrees The temperature of the air in the room was unbearable to me I had her removed to a room on the ground floor, and thought her trouble due to the intolerable heat to which she had been exposed almost constantly for several days She soon became delirious which was followed in a few hours by a comatose condition which lasted three days

The conditions surrounding the patient and the unusually rapid overpowering of the nervous system so masked the real disease that neither the physician who saw her in consultation nor myself diagnosed typhoid fever until the unconsciousness had passed away Four other persons, two in the same house, and two in the house adjoining were taken sick at about the same time as my patient had been These cases were diagnosed by their physicians as typhoid fever One of them died in one week, and all of the others within two weeks from the time of taking sick The disease in those cases was said to have been exceedingly virulent in character My patient was removed to the suburbs, when all the conditions were favorable to the treatment of the disease Of the few cases of typhoid fever which I had treated prior to that time none had died, and I felt comfortably confident that this patient would recover under what may be called the sulpho carbolate of zinc treatment To my disappointment, however, she continued to grow worse until at the end of the second week of her sickness she was in the following condition

Temperature 105 degrees, pulse 130, respiration 38 She was entirely unconscious, bowels moving unconsciously in bed Urine drawn with catheter, tympanites very great, vomiting persistent and stercoraceous, hiccough present the great part of the time An abscess had formed in external ear and had broken, without causing her to manifest pain Bed sore over sacrum Skin cold and clammy, but she would swallow liquids

I regarded her case as being in the nature of a forlorn hope, but I ordered guaiacol m v rubbed over the distended abdomen every two hours, and ordered to be given by the mouth in emulsion, every fifteen minutes

℞	Hyd chlor mitis	gr 1-16
	Menthol	gr 1-16
	Guaiacol carbonate	gr 4-16
	Thymol	gr 5-16
	Eucalyptol	gr 1-16

I considered the patient's condition so desperate that I did not expect her to take many doses of the prescription

After a few doses the vomiting and hiccough stopped, temperature fell, consciousness began to return, and in twenty-four hours the case presented an entirely different appearance I dropped the calomel from the prescription after four or five hours, again introducing it after a day's rest I tried giving larger doses of the other medicines at longer intervals, but the stomach did not bear the medicines given in that way so well In a week the patient was sitting up and at the end of another week went to her home out of the city She is now at work, and well

I do not believe in ready-made prescriptions, but I most heartily concur in the opinion of my consultant who said "that it was a very creditable recovery" I do not care whether the credit is given me, or the prescription of Dr Woodbridge, or whether it is said that the patient "must have had a strong constitution" I think it likely that a little more eucalyptol and a little less guaiacol would have done as well as the exact formula given by the Doctor, but I am sure that I did not attend to the details of treatment more faithfully while giving the second prescription than I had done while giving the zinc I am equally sure that I did not stop the zinc until I was thoroughly convinced that the patient would die under that treatment "Speak well of a bridge, etc" In the above case, I think the principle underlying Dr Woodbridge's plan of treatment was such a bridge

J L TRACY, M D

The Country Doctor

Laton, Ill, July 18, 1895

To the Editor —In view of the restlessness that sometimes exists among country doctors, and their desire to remove to the cities, and in view of what has been said recently in the Journal in regard to the city doctor, post graduate schools and teachers, I desire to say a few words about the country doctor and his environments In the first place, his field of operation is small and the possibility of his becoming famous is almost *nil*, but his usefulness in his locality is incalculable, and his living sure He may not become rich in the common acceptation of the term but he is generally —almost invariably in fact—in comparatively good circumstances He is also an important member of society and his advice is sought for and generally appreciated, on all questions of general importance or of public interest He is the protector of the health of his community, and is always ready,and generally successful in preventing the spread of contagious diseases

In times of epidemics his work is arduous, and he has many sleepless nights and weary days, yet he is usually cheerful, spreading sunshine among his patients wherever he goes, and is amply rewarded by the gladsome and appreciative smiles of his many patients and their friends

He has no time for the blues and gives but little thought to the wolf which he knows full well is not at all liable to come to his door His responsibilities are great, and none realize their weight more than he, but his almost superhuman efforts as a student of medicine and everything that pertains to his professional career and the welfare of his patients, gives him an assurance that he is doing all that any mortal, with like ability, and under similar circumstances could do, hence he has a clear conscience, is able to enjoy his three meals a day, and sleep well when he gets a chance

He takes a post-graduate course occasionally, for he realizes that if he would keep in the front ranks he must avail himself of every opportunity for acquiring knowledge, and he knows full well that an occasional visit to a medical center will enlarge his knowledge in many ways, beside furnishing an opportunity to familiarize himself with the most recent methods of treating disease, and enable him to treat many difficult cases which would wend their way to the city but for the fact that they realize that the progressive home physician can treat them quite as successfully and with much less inconvenience to themselves The country doctor will never treat all the difficult cases he meets with, but because of his superior knowledge and his realization of the difficulties to be encountered in many hazardous operations, he will send his patient to a medical center where he may receive the benefit of that wide experience which can only be acquired in a populous community

I believe as a general practitioner the country doctor is the peer of his city brother, but as a specialist he is not, he is nevertheless a wonderful specialist when we consider the innumerable lines of his work He is a broad minded and generally a well posted man, not only in a professional way but in literature, science, art, and even in politics he is not always a novice He is, in his community, an important factor, he is the common adviser of his clientele, the one man —if such there be—who knows it all, the Great Mogul, the one indispensable entity, who is appreciated and remunerated beyond his fellows, and should be the best contented man on earth, and the one man who when he ends his earthly labors, should be entitled to an upper seat in the doctors' paradise in the great beyond

Truly yours, C Barlow, M D

The City Doctor

New York, July 23, 1895

To the Editor —What you wrote recently about the large polyclinics is true The urban physician has usually a large hustle to keep things going The subject of hospitals cutting off thousands of dollars of legitimate practice ought to be more earnestly aired In this, I am not a sinner for I do no hospital work I once had charge of a small dispensary of the Medical Missionary Society, and while the work was among the very poor, some frauds would creep in

Dr David Webster, the associate of the late Dr C R Agnew, once told me that he would rather examine a case in his office for a dollar, than for nothing in the dispensary So having sent him cases that have paid his usual fee for examination $10, I have also sent him the dollar ones

The profession has deliberately prostituted itself into a great machine for producing fraud by its immense hospital work The real poor should be treated by the State, and the medical aid should be rendered by a system of State service similar to the Army, Navy and Marine Hospital bodies

Yours respectfully, John A Cutter, M D

Sublimate Poisoning

Philadelphia, July 22, 1895

To the Editor —Under Philadelphia Notes in your issue of July 20, you record a case of recovery from 15 grains corrosive sublimate

Some five or six years ago one of my patients, a young married woman, in a fit of jealousy, swallowed two tablets of corrosive sublimate, grs 7 7 each, with suicidal intent Fortunately I was promptly called, was in the house within twenty minutes, and by the use of emetics followed by egg albumen, succeeded in saving the patient

There was no salivation, but a subacute gastritis lasting about ten days resulted

Respectfully yours E W Holmes, M D

PUBLIC HEALTH

State Board of Health of Pennsylvania —At an annual meeting of this Board, held July 11, at Marietta, Dr S T Davis, of Lancaster, who for three years has been the President of the Board, was succeeded by Dr Pemberton Dudley, of Philadelphia

Women Medical Inspectors —Three women doctors have been appointed in the summer corps of medical inspectors by the New York City Board of Health All of them are spinsters Miss Mitchell, M.D, Miss Deane, M D, and Miss Weiss, M D The *other* doctors of the body offered no objection to the selection of these three inspectors, all of whom are said to be fully qualified to perform the duties of their office Their salary is $100 a month, and the *Sun* has no doubt they will earn it by faithful service

Water Supply of Cleveland —The Ohio State Board of Health has refused the petition of the city of Cleveland to be allowed to discharge sewage from a new district into Lake Erie near the intake of the city water supply Mr Allen Hazen of Boston was employed by the Board as consulting engineer Investigation showed that the water supply is already polluted and statistics revealed that the typhoid death rate for the past seven years has been higher in Cleveland than in any other large city of the State Plans for extending the intake into the lake are under consideration, but Secretary Probst is of opinion that, while this may afford a temporary remedy, all the lake cities will eventually be compelled to resort to filtration for the purification of their water supplies A better way would seem to be to prevent pollution by a proper disposal of sewage

Board of Health of New York State —Dr Florence O'Donohue's term of office as a member of the State Board of Health ceased, and Governor Morton appointed Dr Frederick W Smith, of Syracuse as his successor Dr Smith is an alumnus of the New York University, in 1880 The Board of Health appointed Dr O'Donohue a short time ago a member of a committee to carry out the provisions of the Public Health law relating to tuberculosis in cattle In the appointment of Dr O'Donohue's successor it was understood in the Executive Chamber that Dr O'Donohue would continue as tuberculosis commissioner at a salary of $250 a month and necessary expenses Both of these physicians reside at Syracuse Dr Smith has not any great amount of sanitary achievement to his credit thus far, but he is spoken of as an energetic and alert man

Anti-Tetanic Serum.—Professor Vaillard is very sanguine that the preventive use of the serum of animals rendered immune against tetanus is likely to prove of signal service in the tropical regions where tetanus is so common after slight wounds as to be one of the most frequent causes of death He also predicts a wide' field of usefulness for the serum in preventing tetanus among new-born infants in some countries of Northern Europe, where trismus sometimes carries off 60 per cent , also in military surgery and, generally in the restricted area in which the specific bacillus of tetanus is indigenous, and, finally, in veterinary surgery where tetanus often follows wounds of the feet or castration It is in the preventive field that it is most valuable, as a curative agent it is effective only in the rare cases in which the poison acts slowly, applied in the treatment of man or animals stricken with acute tetanus it is of no more avail than other remedies

Diplomas for Disinfectors —The government of the Grand Duchy of Mecklenburg-Schwerin by a decree dated May 29 has decided to grant a diploma for "Disinfector of Apartments" The candidates will have to undergo a special examination before a medical commission at Rostock, and only those who pass will be allowed to call themselves "Licensed Disinfectors of Houses" They will have to swear always to faithfully observe the rules for disinfection and to execute carefully and conscientiously all sanitary works confided to them In the exercise of their duties they will be placed under the surveillance of the Rector-Physikus and the local police [1]

Comparative Marriage and Birth Rates of Europe —M Cherrin has collected the following statistics concerning the percentages of marriages and births in the principal countries of Europe [2] In 1,000 inhabitants of both sexes over 15 years of age the following percentages are married Hungary, 91 6, Germany, 53 0 England and Wales, 52 6, Denmark 52, Austria, 51 3, Italy, 50 1, Finland, 49.2, Holland, 49 0, France, 48 8, Belgium, 41 9, Greece, 41 6, Scotland, 40 9, Switzerland, 40 8, Ireland, 23 0 But the number of marriages is only one of the elements in the problem of increased population The important thing is the fecundity of these unions The following table shows this

	Legitimate live births for 1,000 women (married) 15 to 50 years of age	Illegitimate live births for 1,000 unmarried women 15 to 50 years of age
Germany	270	26 5
Scotland	269	19 9
Belgium	265	19 8
Italy	251	24 6
England and Wales	250	12 1
Austria	250	44 4
Sweden	240	
Ireland	240	4 1
Switzerland	236	10 2
France	163	16 7

Sanitary Importance of Clean Streets —Commenting upon the action of the New York City Board of Estimate and Apportionment, in authorizing an issue of bonds sufficient to meet the greatly increased expense of the more efficient street cleaning under Mayor Strong, the *New York Medical Journal* indulges in the following remarks, which have a special pertinence to another large American city, where not only clean streets but some other problems of sanitary administration are just now attracting an unusual amount of attention "It is the duty of the medical profession to take an active part in furthering all plans calculated to improve the public health, and we feel justified in directing attention to the sanitary importance of clean streets, and in asking members of the profession at large to do all in their power to aid the city authorities in their good work The power of the profession to influence public opinion is enormous, and the power of public opinion to help or hurt public officers in their work is still greater Public opinion is really the one irresistible force in our government Backed by it, an officer can do almost anything, opposed by it, he can do nothing, while if it is indifferent in regard to some course decided upon by an officer, he may succeed in doing much, but his success will depend entirely upon his personal ability to work under a heavy strain "

A Typhoid Fever Panic —The *Medical Press and Circular*, June 5, relates an incident of fever prevalence, in an isolated part of the western Highlands of Scotland, which created a decided panic The following is a part of the narrative in the *Press*

"A curious incident has lately been reported from Mingalay, a remote island off the northwest of Scotland It is given on the authority of Dr Ogilvie Grant, medical officer for Inverness shire, to which county the island in question is attached for administrative purposes Some time since a girl brought back the infection of enteric fever to Mingalay. After a while the rest of her family, six in number, contracted the disease In the meantime a panic seized the neighbors, who one and all deserted the place The father was then attacked and died, but no one would help to bury him A priest, however, at length came to the rescue, put the body in a coffin and dragged it out of the house to a distance of ten yards A similar scene occurred two days later upon the death of the mother It appears that the district is too poor to pay for proper medical attendance for the poor But surely, if a medical officer of health be provided, it should be possible to furnish a small staff to cope with the emergencies that are bound to arise from time to time in connection with infectious fevers"

Neglect of Vaccination in North Carolina —The *Bulletin* of th North Carolina State Board of Health, for June, contain liberal selections from an address, on sanitary progress i that State, delivered by President Tucker at the recent meeting of the State Medical Society The medical officers of both State Board and State Society note with regret a too general apathy in respect of the prevention of smallpox by the use of vaccination Dr Richard H Lewis of Raleigh, Secretary of the State Board, has given much attention to the subject without being able to effect a change for the better The remarks of Dr Tucker on this subject were, in part, as follows

"Let us for a moment consider the question of vaccination For many years past the worthy Secretary of the Board of Health has reported to this Society an increased indifference on the part of the profession and the people to this great preventive measure, and in a recent session he announced from the floor of this Society that, in his belief, nothing short of a visitation of an epidemic of this dread disease, smallpox, in our borders will arouse the people to the sense of their danger and impress upon them the necessity for vaccination We have no statistical data upon which to base an opinion, but a conservative estimate would leave more than half of our people, ages and classes considered, without the benefit of this great prophylaxis, and when we consider the increasing number of epidemics of smallpox occurring in the more populous Eastern States, the increased facilities for travel and the changed habits of our people with regard to travel, many thousands going and returning from the great centers of population, thereby subjecting themselves to the danger of contracting a disease which, once set on foot in our State, will grow into a conflagration

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[1] La Semaine Medicale, No 32, 1895

[2] Les Nouveaux Remedes, No 12, 1895

more appalling, if possible, and more difficult of suppression *than a prairie fire in mid summer*, we may well counsel together about matters of prevention In the sparsely populated condition of our State it would be *impracticable to enforce compulsory vaccination*, the law would be cumbrous, expensive and difficult of execution, but we can and should secure the enactment of a law making it *compulsory in our public schools*, indeed, we might go a step farther, and make a certificate of vaccination a pre requisite to entrance in any school whose doors are opened for public patronage, and we as physicians, who are charged with the sacred duty of maintaining the health and promoting the well being of the people, should resort more frequently to vaccination in our own private practice, remembering that the best 'starting point' is *at the physician's own household*, through these combined agencies, in a few years, we may hope to have the larger portion of our people brought under the influence of this great prophylactic measure, and thus aid our Board in the accomplishment of a work which has occasioned so much anxiety"

Mismanagement of New York's Water Supply —New York is not the only city that has been called upon to suffer from corrupt trickery It has recently come to light that a false scarcity of water has been purposely produced in order to favor the designs of contractors and their friends The *Independent* refers to this trickery in its issue for July 11 It says

'We have all been getting gradually wonted to this scanty supply, after the characteristically American way we have of submitting to, as inevitable, abominations which could be thrown off were we not too easy going and unorganized The trouble has been generally attributed to insufficient supply at the sources, which we have been induced to believe have been outpaced by the growth of population But as one of the results of the uprising of last November there comes now the astonishing discovery that the trouble is of the opposite character, to wit closed gates, the conclusion from which is that although the Croton sources may not be so ample as desirable, it is uncertain whether they are not adequate to present needs, under a free flow, because that flow does not exist How many gates are closed and virtually abandoned seems to be a matter of slow discovery and, at present, of conjecture, but some estimate the number as high as a thousand Opinion is divided as to the cause Some think the chief cause the neglect of employes to reopen gates which have been closed for convenience while working near them, others, that the mischief has been done in course of a deliberate plan to force the taxpayers to consent to construction of new aqueducts, which would mean large opportunity for stealings However, the closed gates are ligatures, and the flow is suffering under stricture How many gates are in this condition and how many are rusted out and spoiled, nobody appears to know The narrative tells us that there is no trustworthy map anywhere by which to find either the location or the number of gates and apparently the only way to find out is to search for them When we reflect that New York underground, like New York aboveground, has developed without any consistent plan, and when we remember that its municipal operations have for many years been devoid of system and responsibility, managed only by jobbery and plunder, it is not hard to understand how this condition came about or to believe that it may be even worse than is suggested Naturally, the underwriters are aroused after having long been uneasy Our great fire has not come, but the concentration of values down-town is enormous, and only the requisite conditions are awaited. A great fire makes its own wind The old suggestion of a supply comes from the inexhaustible bay comes up again In connection with it the scheme, also old, for a system of roof pipes in the mercantile district is appropriate Salt water is suitable for many purposes, and the cost of stand pipes and pumping will probably compare favorably with that of new aqueducts"

Health Reports —The following health reports have been received by the Supervising Surgeon-General, Marine-Hospital Service

SMALLPOX—FOREIGN

Russia Batoum, June 25 to July 2, 4 cases, 1 death, Moscow, June 22 to 29, 1 case, Odessa, June 22 to 29, 8 cases, St Petersburg, June 15 to 22, 4 cases 2 deaths

Hungary Buda-Pesth, June 17 to July 1, 7 cases and 2 deaths

Holland Rotterdam, June 30 to July 6, 6 cases

Egypt Cairo, June 10 to 17, 2 deaths

England London, June 30 to July 6, 12 cases, 3 deaths, Manchester, June 22 to 29, 2 cases

India Calcutta, June 1 to 8, 27 deaths

Ireland Dublin, June 30 to July 6, 11 cases

Gibraltar June 23 to 30, 1 case

China Hong Kong, June 1 to 8, 1 death

Brazil Rio de Janeiro, June 15 to 22, 21 deaths

Germany Prague, June 22 to 29, 4 cases

Mexico Nogales, June 30 to July 13, 12 cases

Scotland Glasgow, June 30 to July 6, 1 death

Uruguay Montevideo, June 8 to 15, 1 case

SMALLPOX—UNITED STATES

Louisiana New Orleans, June 18 to 22, 7 deaths, July 6 to 13, 4 cases, 2 deaths

Michigan Smallpox reported, 13 at Battle Creek, Detroit and Olivet

Missouri St Louis, July 6 to 13, 6 cases

CHOLERA—FOREIGN

India Calcutta, June 1 to 8, 16 deaths

Japan, Hiogo, June 13 to 22, 30 cases, 26 deaths

Turkey in Asia Adana, May 25 to June 1, 50 cases, 30 deaths, June 1 to 15, 550 cases, 300 deaths, Mersyna, May 28 to June 1, 3 cases, 1 death, June 1 to 15, 2 cases, 2 deaths, Tarsus, May 18 to June 1, 470 cases, 315 deaths, June 1 to 15, 750 cases, 530 deaths

YELLOW FEVER—FOREIGN

Brazil Rio de Janeiro, June 15 to 22, 12 deaths

Cuba Cienfuegos, July 7 to 14, 3 cases 1 death

Mexico Vera Cruz, July 4 to 11, 3 deaths

CONSULATE GENERAL OF THE UNITED STATES OF AMERICA
RIO DE JANEIRO, June 25, 1895

Sir —I have the honor to remit report for week ended June 25, 1895

There were 9 deaths from accesso pernicioso, a decrease of 3, 12 from yellow fever, a decrease of 4, 21 from smallpox, an increase of 12, 8 from enteric fever, a decrease of 2, and 1 from measles From all causes there were 345 deaths, an increase of 29 over the foregoing week

Cholera —I think we may safely leave this disease out of account, as it appears to have entirely disappeared from the city not even are the cases of diarrhea and enteritis any longer called choleriform

Yellow Fever —This disease is declining gradually as it always does at this season of the year, and causes no alarm at present

Smallpox —This disease is slowly increasing as the winter advances I have heard of no cases among the shipping, though I would advise additional caution and warn the shipmasters I see to protect their crews by vaccination Good lymph can be obtained here from the Municipal Institution On the whole, the health of the port may be considered good, the higher mortality being due to diseases of the air passages which are prevalent always during the fall and winter months Respectfully yours, R CLEARY, M D,
Sanitary Inspector, M -H S

NOGALES, ARIZ, July 15, 1895

Dear Sir —I have the honor to report one new case of smallpox in Nogales, Ariz, and three new cases in Nogales, Mexico

I have received what I believe reliable information that yellow fever is prevalent in the following cities, viz Sonsonate and Santa Ana, Salvador, Champerico, Guatemala, Tapachula and Ocus, State of Chiapas, Mexico All these cities being on the Pacific Coast, passengers pass through here from there via Guaymas frequently, and from them I have received this intelligence

Very respectfully, W F CHENOWETH,
Sanitary Inspector, M -H S

NECROLOGY

JACOB P COWAN, M D, of Ashland, Ohio, died July 8, aged 72 years He was a graduate from the Starling Medical College in 1855 He had been prominent in political affairs in his section, having served as a member of the Ohio Legislature about forty years ago He was also an ex-member of Congress from the Fourteenth District of his State

EZRA GRAVES, M.D., of Amsterdam, New York, died July 1, aged 56 years He was a graduate of the Medical Department of Buffalo University, in the year 1865 He was coroner of Montgomery County for several years, beginning in 1880, and the city physician of Amsterdam in 1894 He was Secretary of the Northern Branch of the New York State Medical Association

Stephen E Fuller, M D —The following resolution was adopted by the Kings County Medical Association at its regular meeting June 11, 1895

Whereas, Dr Stephen Edward Fuller, an old and highly esteemed member of this Association, has been removed from our membership by death,

Resolved, That this Association, while bowing to the inevitable and mourning its own great loss, tender to the widow and family our sincere and heartfelt sympathy in their affliction

Geo A Ostrander, M D, } Committee
Thos M Rochester, M D, }

Prof Franz von Ried, at Jena, Germany, aged 85 He was professor of surgery in the University of Jena from 1846 to 1884, when he retired

James Caleb Jackson, M D, who, nearly forty years ago, founded the Jackson Sanitarium, at Dansville, N Y, died in New York City, July 11, in his eighty-fifth year He was formerly an editor of the *Liberty Press*, of Utica, and was a co-worker with Gerrit Smith, Garrison and other antislavery leaders He was primarily a water curist and vegetarian, but in later years he was less of an extremist

William S Housinger, M D, of Chazy, N Y, July 15, aged 74 ——G M Thompson, M D, of Boston, Mass, July 13, aged 82 ——George H Saltsman, M D, Alliance, Ohio, July 12, aged 76 ——George K Smith, M D, of New York, July 15, aged 67 ——A W Crawford, M D, of Emlenton, Pa, July 14, aged 81 ——Edward Loomis, M D, of Dodgeville, N Y, July 7, aged 89 ——G W Griggs, M D, of Evant, Texas, July 20, aged 76 ——J W Morris, M D, of Leavenworth, Kan, July 20, aged 73 ——J W Christopher, M D, of Texarkana, July 17, aged 70 ——S R Mitchell, M D, of Hampton, Iowa, July 8, aged 69 ——N S Halterman, M D, of Glenwood, Minn, July 18 ——James C Jackson, M D, of Le Roy, N Y, July 10, aged 84 ——L D Putnam, M D, of Grand Rapids, Mich, July 22, aged 72

BOOK NOTICES

System of Surgery Edited by Frederick S Dennis, M D, Professor of the Principles and Practice of Surgery Bellevue Hospital Medical College, etc, etc, assisted by John S Billings, M D, LLD, Deputy Surgeon-General U S A Vol II Profusely illustrated Cl, 8vo, pp 918 Philadelphia, Lea Brothers & Co 1895

We have already recorded our favorable opinion of this excellent system, as set forth in the first volume, and we are pleased to notice that the second volume fully merits the warm praise given the first

The contributors to this volume are Dr Frederick S Dennis, W H Forwood, George R Fowler, Frederick H Gerrish, Virgil P Gibney, William W Keen, Roswell Park, John B Roberts, Nicholas Senn, Lewis A Stimpson and Henry R Wharton

The topics discussed in the volume are Minor, Plastic and Military Surgery, Diseases of the Bones, Orthopedic Surgery, Aneurysm, Surgery of the Arteries, Veins and Lymphatics, Diseases and Injuries of the Head, Surgery of the Spine and Surgery of the Nerves The "System" so far as it has progressed, is a credit to American surgery

Early Scoliosis or Curable Curvatures of the Spine By Percy G Lewis, M D, M R C S, etc etc 16 mo, pp 49 Price 2s 6d London John Bale & Sons 1895

This little book is the result of the author's study of the cases which came under his notice at the Victoria Hospital, St Andrews' Convalescent Hospital and in private practice One of the principal points made by the author is on the effect of the twisting of the spine owing to weakness or atrophy of certain muscles, and as the muscles are weak, he considers that "the practice of gymnastics properly carried out, is the natural cure of scoliosis" The illustrations showing the method of applying gymnastic exercises are well executed and instructive Every practical orthopedist will agree that there are many cases of early scoliosis that may be cured by gymnastic training

The Amateur Sportsman New York Published by M T Richardson Co

The July number of this publication contains a great amount of interesting matter relating to all phases of sport The disciples of Izaak Walton and the Nimrods of the medical profession will take pleasure in the perusal of its pages

MISCELLANY.

Disinfection of Tubercle-infected Houses —Delepine and Ransome (*British Medical Journal*, Feb 16, 1895) reported that the disinfection of apartments contaminated by the tuberculous could not be accomplished by the usual means of fumigation Sulphurous acid is insufficient The only efficacious method according to these authors is the application of a solution of chlorinated lime on the walls of the chambers Sublimate has not proved efficacious Exposure to sunlight is an important factor, and wherever possible the sunlight should be freely admitted for some weeks

"The Medical Corpse of the Navy"—An odd misprinting of a paragraph in one of our most serious cotemporaries makes it perpetrate a sly dig at the medical branch of the United States Navy The paragraph is

"A number of deaths and retirements have made twelve vacancies in the medical *corpse* of the Navy, and the singular fact that these places are difficult to fill still exists"

Although the Naval surgeon's position does not compare favorably, *in the minds of our profession*, with that of the Army or Marine-Hospital surgeon, it must be said that the "corpse" is a lively one

A New Biographical Sketch —Oliver W Nixon, M D, is the author of a book entitled "How Marcus Whitman Saved Oregon," from the press of the Star Publishing Company of Chicago A review of the book has appeared in the New York *Herald*, written in enthusiastic terms by Rev George Hepworth He says "It is refreshing, like a southeast wind in August It is stimulating, like some newly discovered tonic I even went so far as to forget all about Whitman himself, in the interest of whose memory it is written, and gave myself with delight to the pictures of life on the plains and the devil-may-care ventures and adventures of the rugged fellows who can not live anywhere near the borders of civilization When I finished this volume I felt as though a sort of blizzard had blown through me, and, I assure you, it was not an unpleasant sensation The West is getting tame, but in the '40s, oh, in the '40s it was worth visiting And this volume carries you back to those old times, with many a racy incident and many a deed of prowess I have spent some pleasant hours with it"

Electricity in the Treatment of the Vomiting of Pregnancy —Larat and Gautier, *Revue de Thérap Méd Chirurgicale*, VIII, p 242, 1895, recommend galvanic electrization as the best remedy in the vomiting of pregnancy The method is important, the positive pole should be applied under the clavicle between the insertion of the two tendons of the sterno cleido-mastoid muscle, this positive electrode should be about the size of a silver half dollar, covered with a piece of wet chamois skin The negative electrode should be placed over the epigastric pit The current may be feeble, 8 to 10 milliampères are nearly always sufficient, but the precaution should be taken to open and close the current slowly The sittings should last from a quarter to half an hour, and repeated several times a day in case of obstinate vomiting From twenty four to forty eight hours are required to effect a cure or marked relief Ribes has also obtained equally good results by the use of electricity in the vomiting of pregnancy —*Revue des Sciences Medicales*, 15 July, 1895

Cæsarean Section, Symphyseotomy and Version in the same Female in Six Years —The *British Medical Journal* quotes Chrobak concerning a case prolific in obstetric surgery Chrobak has communicated to the *Centralblatt fur Gynäkologie* his notes of a case of deformed pelvis, for whose relief Breisky had performed Cæsarean section in 1888, Chrobak himself delivering after symphyseotomy in 1891 The patient was recommended to see him from time to time, but she never presented herself till the autumn of 1894, when she was in labor Circumstances led Chrobak to rely on turning alone, the child died during delivery Version and extraction proved easy, the maternal soft parts were not damaged The Cæsarean cicatrix in the uterus was found to have become considerably stretched, it was rigid and felt like a tough pad of muscular tissue The symphysis pubis felt perfectly firm, the bones were united by a fibrous bridge not a third of an inch broad The bones had not been sutured The symphysis was not damaged during this third labor The patient can now walk with ease On rotation of the femur, slight mobility of the symphysis is noted

A Chinese Doctor with an American Degree —Miss Dr Hu King Eng, the first of her race to acquire an American diploma in order to practice medicine in China, and the second woman of her race to take an occidental medical degree, is now on her way across the Pacific to her native land to inaugurate there a new era in woman's work among women She is Dr Hu King Eng, a charming, modest little woman, characteristically Celestial in every way, despite her nine years' residence in the United States She has never discarded her quaint, rich native dress, and loves her own land best She received her doctor's degree in Philadelphia a year ago, has spent the past twelve months in taking a post-graduate course and in obtaining actual experience in her profession and a week ago she sailed from San Francisco for Foo Chow, where she will take up her life work as physician and missionary at the Woman's Hospital, an institution supported by the Woman's Foreign Missionary Society While she is a pure blooded Chinese, and proud of the fact, Dr Hu King Eng was never a heathen, her family having been Christians for two generations Her grandfather was one of the first natives converted in Foo Chow, and her father one of the first Christian ministers ordained in China She has a brother in the Methodist ministry and a sister a teacher in a Methodist school in China

Russian Meats for Export —In the *U S Consular Reports*, for June, 1895, Consul General Karel makes the following supplementary report on foreign markets for Russian cattle and meat He stated in a former report that a commission had been appointed to work out a project for the development of cattle and meat exports and that said commission was divided into four categories Since then, one branch of the commission has held a meeting and recommended the following measures

1 To avoid the bringing of contagious cattle diseases from the northern Caucasus into the interior governments, it is ordered that sick cattle shall be killed wherever found

2 The quarantine districts to comprise as small territories as possible

3 To suspend the quarantine measures regarding the transportation of wool, because it has been established that wool does not spread contagion

4 For the export of meat to England, to build special fast boats, which will carry no other freights that would taint the meats These boats must sail under the Russian flag, and until they are built, an agreement is to be entered into with the Company of Sea Communications, to arrange its boats for carrying the meats

5 To establish special agencies in England for the sale of Russian meats

6 To build at Libau, the principal seaport for exporting meats, large ice houses and other arrangements to keep the meats in good condition

7 Cattle to be transported on the Russian railways with speed

The Last Contribution of E R Palmer, M D —The following is an item in the *American Practitioner and News*, June 29, written by the late Dr Palmer, of Louisville A few hours after receiving the journal containing the item, the telegraph flashed to us the sad information that the bright career of its writer had suddenly been cut short, and that, too, through the instrumentality of the favorite wheel, of which he wrote so jocundly in the paragraph here repeated

"A Convention Episode —At a recent meeting of the American Genito Urinary Association at Niagara Falls, two staid married members from the City of Brotherly Love, by their manner and conversation gave the writer a mild sensation on the afternoon of the last day of the meeting They were standing on the balcony of the Clifton House in a state of nervous expectation, when the following conversation took place "Have you heard anything from them?" asked one "No," said the other, "and they were to come down from Buffalo on this afternoon's train, sure " "Wonder if the train is in yet?" said No 1 "Yes, half an hour ago " said the hotel porter standing by "Well," continued No 1, "it's plagued strange They ought to be here at the hotel by this time, sure One thing is certain, if they don't come I sha'n't stay the several extra days I had intended to spend here " "Nor I, either," said No 2 To say that I was worked up, inflamed with a burning desire to see these charmers who were coming down, and that, too, right to the convention headquarters, is putting it mildly, and so, as a moment later, one of my friends exclaimed with delight, "Ah! here they come!" I quite naturally looked quickly in the direction of Suspension Bridge, only to see two messenger boys each trundling a *bicycle* What a craze bicyclomania is indeed!

E R P"

Forward Dislocation of the Fifth Cervical Vertebra —(Ghyselink *Arch Méd Belges*, 1894, August) Although the postmortem showed a complete dislocation forward, together with a revolution of the vertebra on its transverse axis, so that the upper surface was directed forward, the vertebra itself was in front of the sixth cervical, and the spinal cord was, as it were guillotined, yet during life the differential diagnosis could not be made between fracture and dislocation The patient, a soldier, age 23, was on duty as hostler A fractious horse threw him under the crib, where he was found His countenance was pallid, skin cold, legs, abdomen and lower half of thorax paralyzed, arms paretic, their strength, particularly the right hand, almost lost Sense of feeling absent from below as high as the third intercostal space, markedly diminished in the arms, but normal on the head The patient had severe pain in the neck The skin was uninjured, there was a slight depression at the location of the fifth vertebra Great pain on pressure over the first five spinous processes Crepitus absent The patient could voluntarily make slight motions of the neck Respiration shallow, 30 to the minute, diaphragmatic Palate and pharynx unaffected Nothing abnormal could be felt in the pharynx Retention of urine, moderate priapism, patella reflex wanting Temperature in the axilla 36 degrees C Skin everywhere painful, especially when touched Patient anxious Treatment consisted of the application of leeches to the neck, stimulants, injections of ether At night it was necessary to use morphin On the following day, hands and forearms were completely paralyzed, the latter elevated to the second intercostal space Rectum paralyzed Severe pains shooting from the neck Gradually tympanites came on, coma and death on the fourth day —*Centralblatt fur Chirurgie*, No v, Feb 2, 1895

Alcoholism in France—France is just now considerably exercised over the question of alcoholism Societies are being formed on all sides under the supervision of the "National League against Alcoholism" One of the largest of these promises to be the "Society against the Use of Alcoholic Drinks," started in Paris under the Presidency of Dr Legrain, Physician-in-Chief to the insane asylums of the Seine In a manifesto, which is to be scattered broadcast over France, the founders of the new society declare that "the time has come for all good citizens to enter on a campaign against a scourge which dishonors and ruins us" They add that they propose to propagate a knowledge of this evil in all walks of life, to agitate against it, to give an example in themselves in temperance by abstaining from the use of alcoholic drinks, to teach the principles of temperance in schools, and to organize school children into temperance societies The dues are to be 1 franc, which is only to be collected from those over 16 years of age They have also decided to distribute cards on one side of which is printed—"1 I promise to abstain entirely from brandy and liqueurs, save on a physician's prescription 2 To make only a moderate use of wine, beer or cider" On the other side is the following "The strength of a nation resides in the intellectual, moral and physical vigor of its children Alcoholism enfeebles a nation and leads it to ruin" "To be temperate is to be a patriot" "*Do not enter saloons except in cases of absolute necessity*" The need for such societies seems to be urgent, judging from the following figures [1]

Quantities of pure alcohol consumed in France

	Absinthe Bitters etc Hectoliters	Other Spirits Hect	Total Hect
1881	25,904	64,081	89,985
1882	33,385	84,348	118,183
1883	38,497	94,908	133,405
1884	50,235	107,548	159,783
1885	57,732	106,078	163,810
1886	65,268	104,678	169,941
1887	74,178	110,436	184,614
1888	81,342	108,954	190,296
1889	90,498	113,708	204,208
1890	105,258	122,462	227,720
1891	110,598	127,327	237,920
1892	129,670	128,773	258,443

Hospital Notes

HOSPITALS MUST BE PROVIDED WITH FIRE ESCAPES—New York has the advantage of some new laws for the greater protection of the inmates of hospitals, asylums, etc The district attorneys of the various counties have received from the Secretary of the State Commission in Lunacy a letter in which attention is called to chapter 381 of the laws of 1895 This enactment provides for the erection of suitable fire escapes on all hospital buildings used for general hospital purposes, or hospitals or asylums for the insane, or any hospital buildings which are more than two stories high The letter in question charges the district attorney with a strict enforcement of this law, which, however, excepts hospitals and asylums maintained by the State, city or county The law becomes operative on Oct 1, 1895 A year is given in which to comply, but after that time the fire escapes may be erected by the authorities and the cost charged against the hospital or asylum

ERIE COUNTY HOSPITAL—Considerable warmth of feeling has materialized in Buffalo, N Y, between the staff of the Erie County Hospital and a Committee on Management who are appointed by the Board of Supervisors A delectable little farce by the faction held in power by the political anthropophagi of that city is the result. This committee, with a Holman-like propensity to reduce all expenses regardless of public safety, has rendered itself a stumbling block to the success of the hospital in question, and smarting under the publication of an article in the Buffalo *Times* which called attention to the faulty hospital system, held a meeting and recommended the dismissal of the hospital staff which consists of some of the best known medical men in Buffalo among others, Drs W S Tremaine, Herman Hayd and John H Prior Three days later the committee experienced change of heart, reconsidered their hasty action and the staff still remains——A site has been purchased by the Hospital Association of Evanston, Ill, for the purpose of erecting a hospital in that city——Plans have been prepared to enlarge the hospital at Rutland, Vt——The contract for the new Woods Run, Pa, hospital has been let The cost of the building will be $12,000——The Southern Pacific Railroad will build a railroad hospital in Oakland, Cal——The Niagara Falls Memorial Hospital to be located at Niagara Falls, N Y, was incorporated July 18

An Acute Coryza in Winter—The *Chemist and Druggist* gives us the following Little boy (with bad cold in the head) "Water is runnin' out of my nose all the time" Mamma "That's because you went out in the cold with no hat on" Little boy "*I didn't know it was cold enough to burst my pipes*"

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[1] La Province Medicale, No 25, 1895

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from July 13, 1895 to July 19, 1895

Col CHARLES T ALEXANDER, Asst Surgeon General is granted leave of absence for two months to take effect on or about July 18, 1895

Capt WILLIAM H CORBUSIER Asst Surgeon, will, in addition to his present duties, take charge of the Medical Supply Depot in New York City, during the absence on leave of Col ALEXANDER.

Capt ADRIAN S POLHEMUS, Asst Surgeon, is granted leave of absence *for two months, to take effect after his return to his proper station* (Ft Douglas Utah), and at such time thereafter as his services can be spared by his post commander

Capt JULIAN M CABELL, Asst Surgeon, is granted leave of absence for four months, on surgeon's certificate of disability

Marine-Hospital Changes Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the fifteen days ended July 15, 1895

Surgeon P H BAILHACHE, to assume command of Camp Low Quarantine, July 6 1895

Surgeon W H H HUTTON, *to report at Bureau for temporary duty*, July 12, 1895

Surgeon W H WHEELER, relieved from command of Camp Low Quarantine, July 5 1895

P A Surgeon C E BANKS to proceed to Detroit, Mich, on special temporary duty July 5, 1895

P A Surgeon H T GOODWIN, granted leave of absence for thirty days, July 12 1895

P A Surgeon G T VAUGHAN, granted leave of absence for seven days July 6, 1895

P A Surgeon J B STONER, to proceed to Detroit, Mich, for temporary duty, July 12, 1895

P A Surgeon J M EAGER, to proceed to Southport, N C, and assume command of quarantine station, July 6, 1895

Asst Surgeon W J S STEWART, granted leave of absence for nine days, July 5, 1895

Asst Surgeon H W WICKES, granted leave of absence for twenty three days, July 5 1895

LETTERS RECEIVED

Asdale, W J, Pittsburg, Pa

Brill, Wm, Los Angeles, Cal

Conner, J J, Pana, Ill, Carpenter, J W, Omena, Cal, Cleaves, M A, New York N Y

Dye, E C, Fly Creek, N Y, De Garmo, W B, New York, N Y, Davis, John L, Cincinnati, Ohio

Fairchild Bros & Foster, New York, N Y

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ADDRESSES

THE NECESSITIES OF A MODERN MEDICAL COLLEGE

President's Address read at the Meeting of the American Medical College Association, Baltimore, May, 1895.

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In the early history of this country, and as late as fifty or perhaps even twenty-five years ago, large tracts of sparsely settled portions of the United States presented conditions in which it was impossible for the thoroughly educated medical man to obtain a just recompense for the time and money necessarily expended in acquiring his medical education, yet these communities required the services of physicians, and it therefore happened that persons with very slight qualifications took up the practice of physic and endeavored to supply the demands of the community that was unable to obtain anything better.

With increase in population, wealth and civilization the people became more discriminating in their choice of doctors, the communication with distant points was more rapid, the advent of railroads made it easier to secure competent medical men, and consequently the poorly qualified doctors have gradually decreased until at present there are few places in the United States where the citizens do not demand skillful aid for the sick. Fifty years ago there were many thoroughly qualified physicians in the country, and the professors in medical colleges were generally men of excellent attainments, but new and ambitious medical colleges began to confer degrees on students with but little preliminary education, and who had attended but two short courses of medical lectures, with little or no laboratory or clinical instruction, which necessarily gave a low rank to the profession as a whole. It was realized by many, even at that time, that the product of such methods of education was not what it should be, but the necessities of the sparsely settled communities seemed to warrant the course that was adopted, and there can be no doubt that the men thus licensed to practice medicine were far superior to many others who without any qualifications were practicing in various parts of the country. From these conditions it can be readily understood that the medical college of fifty or even thirty years ago was not necessarily a very pretentious institution. A few small rooms over a store, or in an humble improvised building, or in the more pretentious colleges a lecture room arranged in the form of an amphitheater for a hundred or more students, with a small chemic laboratory, an articulated skeleton and a few anatomic plates constituted the whole equipment that was thought necessary for teaching medicine. With the changed conditions that have come about during the last quarter of a century, the college that starts to day with the equipment that was satisfactory fifty or twenty-five years ago, is held in derision by the profession and secures for its students only the poorest of the low grade men who hope to acquire some dignity through their medical title. Within the past few years medical men have felt more keenly the necessity for proper equipment, and the great body of the profession has risen to a plane where it is ready to support the colleges that require much better qualifications of their students before they can go out with a diploma entitling them to the confidence of the public.

The few back rooms over a store which were adequate fifty years ago to train the prospective doctor, the single amphitheater and little chemic laboratory are no longer sufficient to furnish the accommodations necessary for the better educated men who are seeking a knowledge of the healing art.

In my effort to ascertain what the proper equipment of a medical college should be, I have not relied wholly upon my own opinions, but have availed myself of the ripe experience of others so far as practicable, and I have endeavored to present a consensus of their views.

To-day it is realized that a first-class medical college must have a large and commodious building with beautiful lecture rooms and ample laboratories. The fully equipped medical college of to day should have two or three amphitheaters, one of which should be large enough to seat the four classes and allow room for a few visitors. The others should be large enough to seat at least two of the classes, since there are many times during the course when it is desirable to bring together the students of the various years. In connection with these, there should be a number of smaller rooms for clinical purposes or demonstrations. Instead of the single skeleton which was used a few years ago by the professor of anatomy, the well-equipped colleges now furnish a large number of skeletons so that each student may be able to study every bone from the specimen in his hand, therefore an osteologic room has to be provided capable of seating, about tables, half of the first or second year classes, with skeletons sufficient in number to provide one to every two students. A well-lighted dissecting room capable of accommodating at least half of the first or second year classes must also be provided, and it is needless to add that ample material is absolutely necessary. The little chemic laboratory which in former years served for the professor to arrange a few experiments, that would now be thought inadequate in the teaching of a grammar school, has given place to a large, well equipped laboratory capable of accommodating at least half of the first or second year classes. Histologic and pathologic laboratories capable of accommodating at least one-fourth of either of these classes must also be provided, and a bacteriologic laboratory of similar size has come to be a necessity. Even larger rooms than these would better serve the convenience of the teachers, but they are not necessary if the class is properly divided, and the teacher will accommodate himself to the various sections. With only four years at our disposal, with the vast field to be covered, it is impossible to make skilled specialists of our students, or even to complete their general education, but it is necessary that every one should be well grounded in the rudiments of medical science and taught how to study, and how to utilize his information in general practice for the best interests of his patients. The best medical colleges now realize the necessity of manual training by which their students are taught the practical use of the test tube, the sterilizer and the incubator, and by which they acquire facility with the microscope, the ophthalmoscope, the laryngoscope and whereby they individually learn the proper methods of applying bandages and splints, indeed, training whereby they may learn every mechanical process with which the fully equipped physician must be familiar. For this work additional rooms are needed each about half the size of the laboratories already referred to.

The recitation system adopted for a considerable part of the work by many colleges is a great improvement upon the old plan of having the class listen to lectures, or read medicine. Where this system has been tried its value is more apparent each year in the better qualified classes that are turned out. It is found that this training of the class which requires them to learn the precepts of some good text-book, even though the instructors may be comparatively young men, produces much better results than when the whole class assembles in a large room to hear even the most eloquent of lectures. It seems to me that the best results are obtained by a combination of recitations with didactic and clinical lectures. The first year about three-fourths of the work should be done in laboratories and class room, the class being divided into small sections. These sections are assigned lessons which they recite to instructors, but about eight or ten times a week they assemble to hear didactic lectures from the professors. In cities of sufficient size to support medical colleges, there are always located a number of ambitious young men fully competent to give the class room instruction when a suitable text-book is provided. These instructors supplement the labors of the regular professors, and in many departments may be called upon to do about two-thirds of the work. This practice gives young men experience and enables them to demonstrate their capacity for teaching and later may become of great value to the college, when its trustees are called upon to fill vacancies in the regular faculty.

In such a course the professor confines himself to the consideration of the more important subjects of his particular department, which are thus impressed upon the class by his individuality and personal experience. At the beginning of the term he should lay out his entire course, assigning beforehand the lessons for each day. This schedule should be placed in the hands of his instructors so as to form a harmonious course. The recitations should embrace not only those subjects which have been assigned from the text-book, but also all those which the professor has considered in his didactic lectures. The necessity for clinical teaching has been so repeatedly impressed, not only upon the teaching corps in our colleges, but also upon physicians and students, that every college does its utmost to furnish suitable clinics, and it is a matter of great importance to this Association to decide what constitutes proper clinical facilities for medical teaching. The advantages that were considered ample until recently can not now be accepted, every college must, therefore, be provided with dispensary rooms and hospital accommodations. I am familiar with the fact that fifty years ago a first-class medical college could be conducted with very little clinical material, but it does not seem practicable to give the instruction requisite at the present time with less than four or five thousand out-door patients annually, and hospital facilities of less than seventy-five to one hundred beds. Where there are few patients some slight advantage may be derived from the more careful study of each case by the students, but unless there is sufficient variety the clinical experience which the student obtains is necessarily limited, therefore, the larger the clinical material at the command of a college, other things being equal, the better will be the instruction that is given to its students. I am aware that these statements may be questioned by professors in some schools where clinical material is scant, but the experience of teachers, both in this country and abroad, will support my views. Without in any way desiring to limit the usefulness of the schools in small cities, I must still maintain that clinical experience is of the greatest possible importance to advanced students. The argument that good physicians were made fifty years ago when clinical advantages were very small is not apposite to the case, when we consider the great advancement in medical science and in the methods of training that have been made within a quarter of a century. I do not desire to discourage professors in small schools from doing good thorough work in training medical men, for I believe there is a field that could be well occupied by colleges, even where adequate clinical advantages can not be obtained, if they would confine themselves to what might be considered the junior department of medical teaching. They could by recitations and didactic lectures ground their students thoroughly in the fundamental principles of medicine, they could teach many of the things that must be learned in the laboratory, indeed, they could fit their students thoroughly to enter the third year of the most advanced medical colleges. In this way they might do a laudable and important work for some of the young men in their vicinity who desire a medical education.

In addition to the requisites that have already been mentioned for a first-class modern medical college, a gymnasium for the cultivation of the physical strength and health would undoubtedly be advantageous in aiding the highest mental training. It would also be very desirable if a large examination hall could be added to each of the medical colleges, where the progress of the student might from time to time be ascertained, that he might the more efficiently apply his subsequent work, and where final examinations could be held under the most favorable conditions for preventing cheating by incompetent students. I wish to urge upon teachers of medicine throughout the country the importance of several review examinations during the course. I am fully convinced, by experience, that such examinations every five or six weeks impress upon the students many things that would otherwise be lost, and as a result such students are infinitely better qualified at the close of the term than they would be otherwise I believe these review examinations would be found most beneficial in all departments, not only in showing the student in what he was lacking and upon what he must put the hardest work, but also in giving the professor a better knowledge of his qualifications when he comes for the term or final examination

The plan I adopt has given much satisfaction In this plan students are strictly marked on every recitation and an absence counts zero against them At the close of the term the average obtained in the recitations counts one third, the average of the review examinations counts one third and the mark obtained on the final examination counts one third in establishing the grade This I believe is most equitable to the students, and enables the professor to estimate correctly whether the student is qualified to pass the term or final examination, providing due care is always taken, as it should be, to secure an honest examination

Within the past few years, I have had frequent occasion to consider the cost of a thoroughly equipped medical college From these estimates and from the advice I have obtained from others, I have to submit the following figures as a fair estimate of the cost of a medical college properly equipped for teaching medicine in this country at this time

The buildings for a medical college complete, containing the amphitheaters, clinical rooms, laboratories, and recitation rooms that I have already mentioned (excepting the gymnasium and examination hall) would at this time in most places cost for a total class of 200, from $75,000 to $125,000, if all under one roof, or for a total class of 500 about $150,000 to $200,000

The price of land would necessarily vary, but in any city capable of furnishing proper clinical advantages it would probably be between $30,000 and $50,000 The fitting up of a chemic laboratory suitable for a total of 200 students in all its classes would be about $3,000 or for one of 500 students would be about $5,000 The fitting up of the histologic and pathologic laboratories would be about $3,000 for the smaller class, or about $5,000 for the larger class The fitting of a bacteriologic laboratory would be about $3,000 for the smaller class, or about $5,000 for the larger class, making a total of $114,000 to $184,000 for the smaller, or $195,000 to $265,000 for the larger school

The cost of maintenance of all of these laboratories for the smaller classes would be about $4,000 and for the larger class, about $6,000, exclusive of salaries to the professor or director The running expenses of the college as a whole, comprising the maintenance of the laboratories would be for the smaller class about $20,000 and for the larger, about $35,000 per annum

In addition to these expenses, small fixed salaries should be provided, as far as possible, for the young men occupying the positions of instructors, demonstrators, etc For the professors of what might be termed the non practical departments, such as chemistry, physiology, anatomy and materia medica, salaries should be allowed adequate to enable them to give a large portion of their time exclusively to their duties as teachers For the professors occupying the practical departments, it is not so essential that similar salaries should be provided, as there is always more or less indirect return for their services, yet, it can not be questioned that in most cases the best work is accomplished where proper remuneration is received It is probable that the expense of maintaining the college and paying the professors suitable salaries would not fall short of $45,000 for the smaller or $75,000 for the larger annually In this connection, I will not attempt to estimate the cost of construction and maintenance of dispensaries and hospitals for the accommodation of patients that must be used in the clinical demonstrations, for these can generally, and should always be secured from charitable persons or the public in return for the services of the physicians to the indigent sick I may state briefly, however, that the original cost of these would be much greater than that of the college buildings and the running expenses would be correspondingly large

If the colleges were required to bear these expenses, not one of them could afford the other necessary equipment In consideration of the question, How the money should be obtained for the necessary expenses of a medical college, I know that I reflect the opinion of the profession when I state that such institutions should be amply and liberally endowed, and no opportunity should be lost to impress upon the laity the peculiar beneficence of charitable bequests to this end and the advantages to be obtained by individuals, families and the community at large from a thoroughly educated medical profession Until the time when our schools shall be endowed they must depend upon the income from the students for their running expenses

In this connection I wish to suggest that a professional education should be paid for, and that the average fees charged to-day in the medical colleges throughout the country, are only about 50 per cent of what they should be to provide the money necessary for furnishing the most complete equipment, and giving the best practical instruction to students, but I do not wish to be understood as advocating uniform prices by all colleges I believe, however, that if all the colleges in the country would raise their fees 25 or 50 per cent as might be agreed upon, it would enable them to furnish much better facilities than are now enjoyed by medical students, and the students themselves would be correspondingly benefited

Administration As most of the medical colleges in this country are supported and owned by their respective faculties, it has been the custom for their management to be left entirely with these bodies, but since a few of the colleges have received endowments, or have become connected with universities, the question has arisen as to the best plan to be adopted in their administration

It is urged by some that as the faculty know more of the needs of students than others, the management should be left entirely with them It is urged again that under such an administration, it is very difficult and sometimes impossible to correct evils that are liable to creep in, because of the relations of members of the faculty to each other For example, a good professor may be appointed, but in the course of time, growth of intemperate habits or something else may occur to render his further connection with the institution undesirable In the meantime, he has formed personal relations with the other professors, which prevent them from taking any active part in his removal, consequently he remains, much to the detriment of the school. In such a case, were the administration in the hands of a board of trustees, it would be a comparatively easy matter to make the necessary change. So long as medical colleges are supported by the individual efforts of the faculty, so long, they must almost of necessity, remain under the control of this body, but when they pass into possession of a university or college, whether as an endowed institution or a State school, the administration will necessarily change. It has been frequently urged, that if our colleges were under the charge of boards of trustees distinct from the faculties, it would be much easier to secure bequests for their endowment. This seems to be a true statement, but the experience of four or five colleges shows that it can not be accepted as an invariable rule.

Many instances might be cited where the faculty control has permitted abuses which the personal relations of the professors has rendered them unable to correct, yet, on the whole I think it must be conceded that the faculty control in the case of an institution that must in some way be supported by its members is the best plan. Under other circumstances the board of regents or trustees of the university, must assume in great part the administration, and the responsibility for the conduct of the college, but even then to what extent the administration should be left in the hands of the trustees or of the faculty is an open question, upon both sides of which many arguments may be made.

Certain institutions assume the whole control of all their departments, allowing the faculty little or no voice in management, others give the faculty greater or less privileges in the general and financial management of the school.

It appears to me the better plan would be, in State schools or in endowed institutions having medical departments, for the board of regents or trustees to have control of the financial management aided by the advice of a committee from the faculty, while the general management of the school, as to its curriculum, time and duration of terms, discipline, etc., could better be left mainly to the faculty.

In the appointment of professors or instructors, the faculty should have the nominating power but only the trustees should appoint. In the discharge of professors, for incompetence or other cause, the trustees alone should act in accordance with the contract made at the time the professor was engaged, and such information as they might desire from the faculty.

In the general management of the school, I believe it would be well for the faculty as a whole, including not only the regular professors but all the assistants, to consider all matters of importance, but the final action upon these should be left to a limited number of the more experienced members of the faculty who should be an executive committee, with power to act, with the consent of the board of trustees or regents.

Although many good arguments may be advanced for absolute control by the board of regents or trustees of any department under its care, yet I feel satisfied that either a nominating or a vetoing power should be left in the hands of the faculty, or the executive committee of the faculty, in order to promote harmony and the best interests of the institution.

The American Medical College Association has already done much to advance the cause of medical education in this country. If our action is wise, we may in the future, *shape the course* of the better medical colleges, and in so doing we will sooner or later compel those of lower grade to fall into line, if they wish to receive the support of the profession.

It would be unwise for this Association to take any receding step in the requirements laid down for graduation, and when we consider the effect which increased requirements have had upon the colleges adopting them, there is certainly no reason why any individual member of this Association should wish to take a lower grade than that which we have adopted. The judgment of the profession in this matter is shown in the fact that every advance by a college in the way of requirements of students has been followed by an increase in the size of its classes.

I feel that we have already accomplished all that is necessary, at least for some years to come, as to the duration of the course of study before graduation, although it is of the utmost importance to fix upon the *minimum amount* of work to be done in this time, and to lay out, as your committee has attempted to do, a suitable curriculum.

Much remains to be done in fixing a high standard of preliminary education. The work of your committee in framing a curriculum that may be adopted by the various members of this Association, I hope will receive your cordial support, at least in so far that its general features may be adopted, in order that uniformity and excellent courses may be secured in all colleges, that desire recognition as first class institutions. The difficulties in the way of deciding upon the preliminary education to be required are many, and I feel that great wisdom is necessary in this body in order to solve the question.

The time has passed with the colleges in this Association, when ignorant young men will be encouraged to study medicine, for their fees, and when schools will maintain scant requirements for the sake of attracting incompetent students to their classes.

In the former Association of Medical Colleges an attempt was made to regulate the fee which should be charged by each, this, I do not believe is wise and I hope the subject may not come up to disturb our councils, or if it does, that no attempt will be made to do more than change the fees by a certain percentage. I believe that the colleges should be left to compete with each other solely upon the merits of their instruction. If a certain body of men choose to give their services gratuitously and to pay from their own pockets the expense of running a medical college, it does not seem to be the affair of any one else, provided others are treated with common courtesy and all adhere strictly to the high requirements adopted by this Association.

In closing, I wish to thank this Association for the honor it has conferred through me upon the college which I represent. I am led to believe that this honor was not a personal matter, either to myself or the college, but that it was an expression of appreciation for the stand this institution has taken upon advanced medical education. My colleagues are firmly opposed to any retrograde step, and I can assure you of their support in a policy of steady and constant improvement, in preliminary requirements of students, and in the methods of medical education.

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THE NU SIGMA NU FRATERNITY—ITS MISSION IN THE MEDICAL PROFESSION

Delivered by the President, at the Thirteenth Biennial Convention of Grand Council at Minneapolis, Minn , June 3 4 and 5, 1895

BY JOHN L IRWIN, Ph C , M D

DETROIT, MICH

Next in organization and domain to that great institution whose power and influence are felt in every hamlet, on every shore, by every river of the habitable globe—the stupendous brotherhood of Masonry—is the secret order confined to the medical profession, the largest medical organization of its kind extant, the Grand Council of which, convening biennially, holds its thirteenth convention to day with the University of Minnesota Chapter and fraters in the city of Minneapolis, to enact its laws as a central governing body having chapters in the leading medical universities

Laying claim to an origin at least coeval with the ancient Egyptian priesthood, and deriving its authority from an antiquity that was hoary when Christianity was born, it has nevertheless adapted itself to the needs of modern medicine, and at the close of this, the civilized nineteenth century, it was never so numerous or powerful as it is to-day in this country

The question of this hour is, What is the Nu Sigma Nu? What its mission in the medical profession?

As man first became civilized on the banks of the Nile, we naturally look there for the first evidences of the existence of a knowledge of medicine We find that the traditions of the ancients, outside of Egypt, refer the origin of their connection with medicine to that country Some hold, however, that the Assyrians and even the Phœnicians, at an equally early date, had made medical progress Ancient traditions tell us that Chiron brought medical knowledge from Egypt to Greece, and became the first Greek physician His pupil was Æsculapius, about whose history there is some doubt and uncertainty, but he is believed to have lived about 1500 B C , and whose eminence as a physician caused him upon his death to be deified, and he became the Greek god of medicine, under whose auspices all further researches were made

The sons of Æsculapius became physicians, and two of them were surgeons in the army of Greece History tells us that during the Trojan war, a son of Æsculapius, having received a serious wound, was being carried from the battle field to the ships by Nestor, who is recorded as having exclaimed

> "A wise physician, skilled our wounds to heal,
> Is more than armies in the public weal!"

The descendants of Æsculapius, continuing the practice of medicine, gave rise to an order of priests devoted to the service of the god of medicine, who were called Æsculapidæ Aristotle, the greatest philosopher of all antiquity, was a member, and Hippocrates was eighteenth in the line of descent Thus arose the ancient order of the Æsculapidæ, which came to view in the new world as the Nu Sigma Nu Fraternity, in the establishing of the Alpha Chapter by prominent members of the medical faculty and others at the University of Michigan, Ann Arbor, many years ago The ancient order, as originally founded in the mysteries of religion and science in Greece, was revived at Ann Arbor, with its rituals and ceremonies The ritual, as then accepted, has since been entirely revised—made to meet the present wants of medicine, and was accepted at the convention held by our order during the World's Fair in Chicago in 1893

Though scoffers challenge its lineage with the medical order of the ancients, and deny its ancestry as far back as Herophilus, the present usefulness of the Nu Sigma Nu Fraternity and its service to the medical profession can not be denied Its widening influence is its own excuse for existence It serves the needs of the true physician, appeals to his tastes and to his sense of solemn and obligatory pledges with a largeness and freedom which can not be overlooked by one who fairly and broadly studies medical phenomena

Medicine has ever been considered the most noble of arts The essentials for a competent knowledge of medicine were early laid down in the tenets of our order Only pure souls could enter the temple of ancient medicine

It is our duty to assist one another in the attainment of all knowledge pertaining to our profession, to be good citizens and conscientious physicians—avoiding contention and strife To ask nothing but what is right—submit to nothing that is wrong

We are taught that to be true physicians and loyal fraters we must practice brotherly love, ambition, temperance, honesty, purity, justice and charity The best principles and character are required of true and loyal members Our ancient brothers found knowledge and wisdom less common than do we of modern times—but the character and principles inherent to just and good men are found alike in all times

Our members are obligated to employ their hands only in good work Our order teaches us that a life of integrity is better than the most famous or successful career lacking that element

The highest compact we can make with our fellows is "Let there be truth between us forevermore" We know that noble persons meet on the grounds of sincerity and uprightness

We are told that physicians take each other's measure when they meet for the first time, and when they meet one upon whom the degree of this order has been conferred, he should need no auxiliaries to his personal presence His aims should be generous and universal A scholar may be a well-bred man, or he may not, but a true physician must be Manners have been somewhat generally defined to be a contrivance of wise men to keep fools at a distance Emerson says "Society is very swift in its instincts, and if you do not belong to it, resists and sneers at you, or quietly drops you"

The Nu Sigma Nu presents truth in a certain form All along our pathway as true physicians, our ritual is useful to us Most of the true physician's deeds are not recorded, his best acts are seldom chronicled The true member of our order is he whose actions are the best, and he will live the longest with us No true physician ever lived without influence somewhere

Our living principle is the recognition that we are a medical brotherhood Improvement, diligence and duty are our watchwords We know that good sense, industry, good principles and a good heart will make a well constituted mind achieve success in any calling

We are an association of physicians having common rights and privileges, but we are more—we must have ever with us the symbols of divine presence

The pot of incense is always found burning at our altar The Nu Sigma Nu Fraternity seeks to make medical men true physicians—the world makes the so called "successful practitioners of medicine"

It is said that on all the shores of all the seas there are not two grains of sand formed alike—our order takes the best material from the ranks of the medical students and practicing physicians, and offers them our standard What air is to the lungs, blood is to the heart, light is to the eye, liberty is to the heart of man—the beautiful precepts of our ritual are to the true physician

"He only is rich who owns the day" The true physician's time is not his own

Melody in music is produced because the different sound waves reach the ear at the same time If sound, whether high or low, loud or soft, were to travel at different rates, confusion and not melody would be the result The tenets of our order teach us as members to work hand in hand, to achieve the greatest good for the greatest number

The order of Nu Sigma Nu is not a pastime—a mere diversion—it is an ever living principle Our ritual exemplifies important truths, one of which is that of a medical brotherhood It teaches us that there is a purpose in our being, and this purpose we are to apply to the duties of our profession Emerson says "The crowning fortune of a man is to be born with a bias to some pursuit which finds him in employment and happiness" Candidates for the degree of Nu Sigma Nu are selected as to their fitness and natural talent for the work of our profession, and as the disciples of our ancient Grand Master they must show a bias to their chosen calling, which is of all callings the most humane and honorable

The requirements for admission into our order are those which are possessed by the true physician of nature We believe the true physician is he who best studies nature and her laws We know that if we are what nature intended us to be we shall succeed—if we are anything else we shall be worse than nothing

Our ritual tell us it is our duty to stand well in the *front* rank among the progressive physicians of the day It bids us never to desert our true sphere, our own line of talent Candidates for our degree must study their aptitudes—to see if naturally bent to medicine as a calling There is hardly any person who is not qualified to shine in some profession, and it is far better to be at the head of an inferior calling than at the foot of one which the world calls respectable Although some men, and men of sagacity, deny the doctrine of natural tendencies, and hold that any one by dint of energy may become what he chooses, yet it would seem that while the natural bent may be hard to discern, still—as the boy is father to the man—he generally gives some indication of what sort of man he is likely to become The fact that one has an original bias, a fondness and predilection for a certain pursuit, is the best possible guaranty that he will follow it faithfully, hence our ritual causes us to select candidates for our degree, whether they come from among the medical students or medical practitioners, by the standard of natural aptitudes, as well as the moral and intellectual conduct required by our order

Our ritual teaches that it is not the calling or station in life which gives dignity or nobility to the man, but the man who dignifies the station or calling An humble avocation may be ennobled by the manner in which its duties are discharged, and one may challenge the respect of all whose good opinion is worth having

Nothing can be achieved without tenacity of purpose Fraters who are just entering their medical career should remember that the greatest weakness of our young men is fickleness, and where one of them perseveres in a calling which he ought to abandon, a dozen abandon their callings who ought to stick to them The better the profession the more likely they are to do this, for all kinds of business which are surest in the end—which pay best in the long run—are slowest in the beginning to yield a return

After a young man has adopted a profession, he should be slow to believe himself to have made a wrong choice, especially after he has acquired much valuable experience, and should try another only after repeated failures in the most desperate attempts to succeed When we reflect that the man remains the same whatever his avocation—that a mere change of calling will neither add to his strength of mind nor diminish its weakness, we may conclude that in many cases what he is in one vocation he would be substantially in any other, and that he might gain little or nothing by the change In hours of despondency, or when smarting under some disappointment, a young man is apt to fancy that in some other calling he might have been more nearly successful It is so easy, while regarding it at a distance, to look at its bright side only, shutting the eyes to what is ugly or disagreeable, that it is not strange that men abandon their professions for others for which they are perhaps less fitted

Our purpose carries a moral truth with every professional obligation It says that to be true and loyal members of our order we must carry justice, fair dealing and truth into our consulting room We must be noble, just and true in the presence of our patients

Our ritual insists that our professional work will be all that the true physician could desire—not less preaching, but more practice It is true that our organization is a secret one, but as members we are not bound by obligation to any unworthy member—we are not bound to each other whether we are right or wrong The pin or badge we wear upon our breasts is not an index to the life behind it, but it should be

We are taught not to despise the man of only ordinary intellect There is, perhaps, no mistake of our young men more common than that of supposing that in the pursuits of life extraordinary talents are necessary to one who would achieve more than ordinary success The average man can not believe that those persons who have made themselves a place in history by connection with striking events, whose influence has been felt through ages in changing the destiny of nations, have been men of ordinary intellectual caliber Men who can do the little things well are they who go to the front

Our ritual disapproves of all things unprofessional Its shining light is character A French writer on agriculture observes that it is impossible, profitably, to improve land by trying favorably to change its natural character—as by bringing sand to clay, or clay to sand The only true method is to adapt the cultivation to the nature of the soil, so with the moral and intellectual qualities required to make true physicians. Exhortation or self-determination may do much to stimulate and prick a man on in a wrong career against his natural bent, but when the crisis comes this artificial character thus laboriously induced will break down, failing at the very time it is most wanted.

Persons who have been at pains to collect statistics in mercantile pursuits in our large cities have found that only three out of a hundred merchants are successful, all the others becoming bankrupt or retiring in disgust. Why is this? Is it not because they have gone into business without business aptitude? The ritual of the Nu Sigma Nu requires of all candidates the moral and intellectual essentials with which to achieve success, not as *medical practitioners*, but as *true physicians*. We know that successful medical practitioners so-called are not always true physicians.

The bane of the medical profession is the tendency of members to prey upon one another. Our ritual condemns this. It teaches us to practice its precepts in the quiet of our consulting room, and at the bedside of our patients as well. It respects honest convictions, but it directs us to give allegiance to no sect, school or 'pathy in medicine. We are to make use of the teachings of accumulated experience, and avail ourselves fully of every aid offered to us by advancing medical science. We are to be true physicians in a broad and liberal sense, and are to practice anything wherever found, which will contribute to an honest effort to heal the sick and prolong life. We are to be rational in our methods, and to assist nature in *her* efforts to cure disease.

We are taught to go forward in our methods of practice, keeping pace with the advancement of medical science, because we know that the medicine of yesterday is not the medicine of to day, and that of to day will tomorrow represent the historic and dead past.

"We believe that the laws of nature are not things evolved by any speculative method, but we must discover them in the facts. Before we accept them as methods of practice we have to try them by repeated observation and experiment. In proportion only as they hold good under constantly increasing change of conditions, in a constantly increasing number of cases, and in the greater delicacy in the means of observation, does our confidence in their trustworthiness arise."

What is most needed, in the medical profession of to day is not schools, sects, or 'pathies, but the elevation of character and intellect, and the improvement of the conduct of the medical adviser. To this task the moral agencies of our profession must apply themselves, ethical considerations must enter into all phases of professional work. As members of the Nu Sigma Nu, it is our duty to carry the grand principles of our ritual into every detail of our daily labors—honesty, truth and commiseration should ever be present in our relations with our patients. It is said that cheerfulness and repose are the badge of the gentleman. Our ritual requires a candidate to be a true gentleman ere he receives the degree and badge of Nu Sigma Nu.

Our duties as members do not interfere with the exalted duties we owe to God, our country, our family or ourselves. Who of our members will ever forget his initiatory ceremony? Our institution elevates the character of the physician by placing before him incentives to goodness—keeping in view the great Golden Rule for our maxim. Our ritual teaches elevating and inspiring ideas of higher life and stricter duty and if our beautiful precepts were practiced, not only by all our members, but by all the members of the medical profession everywhere, humanity would proclaim the goodness of our plans, the utility of our triumphs.

Fear of disease and dread of death cause mankind everywhere to employ physicians—wherever sick and suffering mankind is it turns to us for relief. This reliance of humanity on our profession to heal its wounds and cure its diseases, naturally brings us in contact on the one side with mankind's greatest, most vital interests, and on the other with the great science and glorious art of medicine, and gives us power in our legitimate sphere almost like that of the monarch. We are intrusted with secrets that would be confided to no other person, and are as honorary members and guardians to every family we attend. No other men can do the good that can be done by true physicians, others may have the will, but they have not the power and opportunity.

Ours is a calling capable of developing all the good qualities of one's heart, hand and brain. Our ritual would have us keep our lamps trimmed and our oil ready, to do the greatest possible good for all who trust to our skill for relief, that we may be in very truth called true and good physicians.

Wordsworth says "Blend not your pleasure or your pride with sorrow to the meanest thing that feels." Our ritual bids our undergraduate member treat with kindness, consideration and courtesy all his fellow classmates—the one who wears the faded coat alike with the wealthy and more fortunate. It insists that the one who wears our golden badge should be one to whom the world can point with esteem and honor, and whose conduct in his profession is such as to be truly worthy of such recognition. Such, then, being the mission and effects of our organization, can any one doubt there is an excuse for our being? Has not the medical profession given us a hearty welcome? The answer is found in the fact that some of the brightest minds in the medical world to-day are members of Nu Sigma Nu. In the leading medical faculties everywhere are found our fraters, our badge is being worn by some of the brightest students in our leading medical universities. Let the good work go onward until we have a chapter in every leading medical university and center of the world.

As the gem can not be polished without friction, neither can the physician be perfected without trials. Troubles gives sinew and tone to life, fortitude and courage to the true physician. That would be a dull sea and the sailor would never become skilled, where there was nothing to disturb the surface of the ocean. What though things look a little dark, the lane will have a turning, and night will end in broad day. Trouble will disappear before the ever-cheerful heart, as the mist before the brightness of the sun's darting rays.

Let the trials of life come fiercely, if God thus wills—it may be for the best. Gold from half-heated crucibles with dross is found. Each one of us in this life is feeding fuel to his own future, each one tending the crucible in which his own destiny is being molded. If sin and wrong are mingled therein, not thereout can come the elixir of life, but only poisonous drugs of suffering and death Could we but teach the people that not alone in steaming crucibles from precious herbs, but from out the pure air, the glad sunshine, the sweet waters from rivulet and fountain, simple food and temperate habits, an upright walk before God and man, a good conscience—that from these is distilled the real elixir of health, happiness and life—could teach the people such simple truths, we, as physicians, would find our work less arduous, but it is perhaps one of the impossible things

In vile indulgence every known law of health is defied, and the drunkard and the glutton and the licentious expect to find in some pill or powder that health for both body and mind which can best be found in the God-given medicines of pure principles and a virtuous life, in which alone are distilled the elixirs of the other life which is immortal

Every institution is an outgrowth of the condition of humanity Our institution supplies a long-felt want in the medical profession Our great principles hang, as clusters of fruit, our ritual being the great trunk, whose leaflets permeate the medical profession, and whose attributes do so much to make the true physician No association ever had a more noble mission than has ours to-day

The ritual of Nu Sigma Nu, incorporated with the elements of the Christian code, is the unerring rule by which the conduct of its members is tried, laying the broad foundation of that sentiment which bids us to do unto others as we would that others should do unto us Our institution receives each successful candidate as a brother, and asks him to cultivate the true fraternal relations designed by Providence

As physicians we know that the greatness of benefits enjoyed by humanity come, not through mighty deeds of valor, but through little acts of kindness Our profession is not yet perfect, much remains to be done There is yet much work to be accomplished

In all lands and among all classes of people, the maternal love is regarded as the most touching of human sentiments We, as physicians and students of medicine, love our Alma Mater, the institution at which were fostered the higher powers of our intellects and hearts We love to recall in sweetest memory the events of our college life, but as we grow old in our chosen calling and time will have recorded the flight of years, I verily believe, even more proudly than now, shall we refer to our connection with this great organization

It is now many years since were revived at the Athens of Michigan the ancient tenets of our institution I received the degree of Nu Sigma Nu while a medical undergraduate at Ann Arbor For the past five years I have held positions of responsibility in our Grand Council, and I have observed in that short time the marvelous growth of our order, chapters and members having multiplied until to-day we are represented in almost every part of the civilized world The work will go onward and upward, until our mission as a fraternity, the elevation of the moral and intellectual standing of medical practitioners in all lands has been accomplished

I think I ought not to let this occasion pass without addressing some remarks to the memory of those who, having entered into rest, are joined to our Omega Chapter Their going from among us has seemed like the golden departure of the setting sun It belongs to the amenities of our profession, to the respect, the esteem, the love and attachment that we have for one another, that the opportunity is given at this time of testifying to their eminent worth, and above all to their loyalty and devotion to the precepts of our ritual

It remains for our younger members, stimulated by their high attainments, to lend their energies in the direction of the best thought, the best study and the best learning, that they may become qualified to fill the places and follow the footsteps of our departed fraters, and it becomes us all, touched by the loss of our brothers, to soften the asperities of our chosen calling, making our friendship for one another more calm, constant and cordial, that we may, when life is over, leave behind us a memory which, like a sweet perfume, will make pleasant through all time the places in which we have moved

In conclusion I wish to say in accepting, two years ago, at our World's Fair convention in Chicago, the exalted position of your Grand President, to which my fraters called me, my first thought was that while I must yield to their wishes to discharge the responsible duties of this, the highest honor in their gift to bestow, yet to none did I yield the measure of my appreciation of the high honor so liberally conferred Not to my own fitness or worthiness, but to the high regard in which I have ever held this exalted station, did I trust in some slight way to prove a worthy successor to my brilliant predecessors who have, with unsullied honor and unerring devotion, fulfilled the best hopes of our fraters who raised them to the honored position I to-day relinquish

They need no words of favorable mention from my lips For the work they did—noble, humane—they live forever in our fraternity's history Their faithful services and loyalty to our order are written in letters of living light in the hearts of a grateful brotherhood

I leave the work with you, my brothers, and believe that my successor and his new staff of grand officers will carry our noble order onward and upward in its march of triumph toward a higher and better life

> "The sweetest lives are those to duty wed,
> Whose deeds both great and small
> Are close knit strands of an unbroken thread,
> While love ennobles all
> The world may sound no trumpets ring no bells
> The Book of Life the shining record tells"

230 Third Avenue, Detroit, Mich

ORIGINAL ARTICLES

AN ORIGINAL OSTEO-PLASTIC OPERATION FOR THE REMOVAL OF LARGE VASCULAR TUMORS GROWING IN THE VAULT OF THE PHARYNX, ANTRUM OF HIGHMORE, SPHENO-MAXILLARY AND PTERYGO-MAXILLARY FISSURES

Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10, 1895

BY JOHN A WYETH, M D
NEW YORK

Mr Charles Bull came under my notice early in December, 1894, with the following history In December, 1892, the patient, a student, then 18 years of age, began to complain of some difficulty in breathing through the nose In March, 1893, he began to suffer from severe pains in his head, was very nervous, could not sleep, began to lose his appetite, and had to discontinue his studies In June of that year he was examined by a specialist, a well-known rhinologist, who discovered a growth in the naso pharynx and pronounced it a naso-pharyngeal polypus From June 30 to Nov 18, 1893, treatment was discontinued, as the young man went on a sailing voyage On November 21 he again visited the specialist By this time the tumor had grown considerably, and by December 14 the patient was suffering intense pain in the head, complaining that it was a pressure on the brain which caused him great agony On June 12, 1894, the growth was removed by Dr R P Lincoln with the galvano cautery, and the patient was immediately relieved Ten days after this operation he was able to go out of doors, and went regularly to receive special treatment, which consisted in the application of the galvano cautery to the base of the tumor which had been removed

In July, 1894, the left cheek began to swell and protrude and the left eye to be more prominent than usual and in the middle of November he began to break down rapidly, became restless, nervous, could not sleep, and suffered from great exhaustion after each application of the galvano cautery About this time he was examined as to the condition of his left eye by Dr J B Emerson and Dr Henry D Noyes, of New York The pain was so great that he began to take codein for its relief He was now suffering considerably from loss of memory and seemed completely indifferent to every one and everything about him, talked incoherently at times and was evidently fast giving way under loss of sleep, lack of nourishment and the anemia from hemorrhages which had occurred on several occasions The last operation by the galvano-cautery was made on Dec 8, 1894 A day or two after this he came under my care His condition then was not at all satisfactory for a formidable surgical procedure He was pale, waxy, evidently very anemic, and suffered from double vision, the left eye was wide open and could be closed only with great difficulty, it was protruded and pressed inward, resting partly upon the nose The left cheek was swollen as if it were occupied by a tumor as large as a hen's egg, and the tissues which occupied the pterygo-maxillary and zygomatic fossæ were pushed outward

It was evident to me that he was suffering from a tumor which, beginning in the naso-pharynx, had grown into the antrum of Highmore, breaking through the posterior inner wall of this cavity and into the spheno maxillary fissure and the zygomatic fossa far enough to press upon the blood vessels of the eyeball and produce the venous congestion of the cheek and side of the face

Considering every point of the case, it seemed to me that nothing was left but to try the hazard of a very formidable operation A careful study of all the methods usually employed to reach these tumors, convinced me that none of them would suffice for the conditions with which I had to deal in this case I therefore determined upon the following procedure, which is original and I believe, novel On account of the vascularity of the parts involved and the hemorrhage which must inevitably occur, and also on account of his anemic condition, the first step was to insert a pipette into the median cephalic vein at the elbow and have ready a good quantity of normal salt solution to fill the blood vessels whenever it might become necessary as the operation progressed The anesthetic used was chloroform, which was preceded by a hypodermic injection of one eighth of a grain of morphin, half an hour before the operation, followed by another hypodermic of one-sixteenth of a grain of morphin, ten minutes before the anesthesia There were present, in addition to Dr J A Bodine, my assistant, and my private hospital staff, Professors Henry D Noyes, J B Emerson, Robert C Myles, R H M Dawbarn, Dr Rufus P Lincoln, of New York City and others

The operation occurred on December 12 An incision was made beginning along the temporal arch two inches back of the outer angle of the orbit, following the temporal arch to the edge of the orbital cavity, along the frontal process of the malar bone, curving parallel with, and one eighth of an inch from, the orbital margin, until the point of the knife reached the infra orbital foramen, then downward to the level of the ala nasæ and outward through the cheek until the point of the knife neared the opening of Steno's duct This incision was down to the bone from the point of beginning to the lower part of the superior maxilla, where the antrum of Highmore rests upon the alveolar process of the upper maxilla opposite the first molar tooth Hemorrhage was carefully stopped throughout the entire incision by pressure and by ligating with catgut the larger vessels which were divided, but the soft tissues were in no way dissected up from the bone, except when it became necessary to enter the orbital cavity in its outer half, where the tissues were carefully dissected away from the bone and the eye displaced to the right, (taking care not to press or injure this organ,) until the anterior commissure of the spheno-maxillary fissure came into view I then hurriedly passed in this a key-hole saw with the teeth turned upward, and rapidly sawed through the junction of the malar with the frontal bone The saw was then turned over with the teeth directed downward and beginning at the same point, I rapidly sawed through the floor of the orbital cavity, traversing the infra-orbital foramen until I had sawed through the antrum of Highmore at the level of the alveolar process of the upper maxilla A hook was then placed in the outer angle of the orbit and a quick sharp jerk fractured the zygomatic process of the temporal bone, displacing the side of the face, completely exposing the antrum of Highmore, the zygomatic fossa and the pterygoid and spheno maxillary fissures The hemorrhage was tremendous, but was easily controlled by rapidly packing sponges into the wound and making firm compression So great and so sudden was the hemorrhage that the pulse jumped from about 80 or 85 up to 140, and the patient seemed about to expire in collapse At this juncture the faucet was turned on and one pint of the saline solution, already prepared and kept so hot that the hand could scarcely be borne in it with comfort (temp 110° to 120° F), allowed to run into the vein immediately Under the pressure of this solution the heart immediately rallied and came down to 85 beats to the minute The tumor was again exposed and with a periosteal elevator lifted out of the antrum of Highmore and its attachments to the pterygoid process of the sphenoid bone were severed By opening the patient's mouth which action depressed the coronoid process of the inferior maxilla, the pterygo-maxillary fissure and the zygomatic fossa were well exposed The whole antrum was well packed with a long wick of iodoform gauze, which was allowed to project at the anterior inferior angle of the wound, from which it was drawn on the third day after the operation The bone which had been temporarily displaced with the soft parts adherent, was then brought back into position and held there by stitching the soft parts along the line of incision A bandage and compress were applied in order to maintain approximation No sutures were inserted in the bones The patient made an uninterrupted recovery He is now entirely well and was to have been present at this meeting to be exhibited, but for an unfortunate accident which occurred to him a week ago, he having been by accident struck upon the glass of his spectacles, driving several particles into the conjunctiva and globe, inflicting a very painful and dangerous wound of the right eye The bones have all united in their normal position, he has perfect use of the eye and, although the filaments of the facial nerve were divided, he still has motion of the orbicularis palpebrarum muscle Disfigurement from the scar is insignificant

Beside the novelty of this procedure, there are three important points which I desire to bring out First of all, is the character of the anesthetic, morphin being almost entirely relied upon The amount of chloroform taken was only 2 drachms in one hour and forty minutes of narcosis I have done a number of major operations with this combination of morphin and chloroform, or morphin and ether, in operations about the respiratory tract, and in one instance in removal of the larynx I used nothing but morphin and obtained complete narcosis and anesthesia, the operation lasting an hour and thirty-two minutes, without a drop of chloroform or ether, the patient remaining perfectly quiescent during the operation, suffering no shock, and with no memory of it

The second important point is the value of transfusion with a salt solution (one teaspoonful to a pint), to prevent collapse and shock under great and sudden loss of blood During this operation, five pints in all were allowed to run into the veins, and the blood became so thin that practically salt water ran from out the vessels in the line of the incision, showing the red corpuscles were almost exhausted, and yet we were able to make the patient's pulse drop from 130 and 140, the rapid pulse of collapse, to 80 or 90 beats per minute, full and strong, showing that the heart had plenty of volume to act upon and so did well Prof R H M Dawbarn, who has done so much to establish this method of transfusion, attended to this feature of the operation for me and rendered, in other ways, most efficient help

Finally, the persistence of motion in the orbicular muscle of the lids after division of the branches of the seventh nerve

For the following study of the nervous distribution of the orbicularis palpebrarum I am indebted to Dr J A Bodine, of the New York Polyclinic

The orbicular portion of the muscle is supplied solely by the facial nerve This portion, however, is not necessary to the act of closing the eye In fact, the palpebral portion is quite distinct from the orbicular, and its action is habitually involuntary It receives nerve impulse from the sympathetic plexus around the cavernous sinus In addition to the nerve fibers from the seventh, the upper lid may and does get motor impulse thus, the ophthalmic or first division of the fifth receives fibers from the fourth and third, and frequently from the sixth, prior to its division into nasal, frontal and lacrymal Some or all of these motor fibers may go with the lacrymal branch of the ophthalmic After the lacrymal supplies the tear gland, it sends fibers to the upper lid (Gray, page 760)

Again, the lacrymal not infrequently arises by two filaments, one from the ophthalmic and one from the sixth nerve, thus the upper lid would get motor impulse from the abducens (sixth)

Again, if the ophthalmic has received motor fibers from the fourth, third and sixth as already stated, the supraorbital branch of the frontal nerve which goes partly to the upper lid would carry motor influence, and from this same (frontal) nerve the lower lid could be supplied through the infra-trochlear

Of course the act of lifting the lid depends upon the levator palpebræ supplied by the third nerve

ERASION, EXCISION AND AMPUTATION IN JOINT DISEASE

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, May 7-10 1895

BY DE FOREST WILLARD, M D

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From failure of early diagnosis, from lack of early treatment, and from the neglect of early protection and fixation of inflamed joint surfaces, or on account of the intensity of the tubercular process, a large number of cases of tubercular joint disease still require operative procedures for the safety of the limb or the life of the affected individual Fortunately, owing to a better appreciation of the conditions, these cases are becoming rare, it being more generally recognized that destructive results are preventable by early treatment, that is, by long-continued protection secured by rest and by effective mechanical devices Proper management of these cases will result in the saving of a large number of these joints, even if the tubercular bacillus has secured a foothold in the osseous structures adjacent to the joint itself

Much will depend upon the joint invaded, but the same principles of treatment will apply to all The treatment may be summed up in the one word *rest* This condition may be induced either by fixation, by extension, or by both As a result, however, of the causes first enumerated many joints become so thoroughly implicated by the tubercular process that removal of the offending and dangerous foci becomes imperative

Erasion (improperly termed arthrectomy) aims to remove by gouge and spoon and scissors the diseased hard and soft parts only, excision or resection goes a step further and takes away not only the implicated structures, but also an outlying area of bone, it is, therefore, still more radical, and aims to keep well outside of the disease Amputation sacrifices a large portion of healthy tissue lying on the distal side of the diseased joint and is therefore still more mutilatory

The proper application of these several operations to individual cases, therefore, demands a discriminating and judicious consideration The decision will vary with the joint involved, the extent and character of the disease, the age and condition of the patient, the dangers of systemic infection, the risk to life, and the ultimate results to be obtained as regards locomotion

As erasion is the least mutilating and is both theoretically and clinically so effective an operation, it has steadily grown in favor, especially as it renders possible the continuance of function in a considerable proportion of cases It is also, as a rule, a less severe procedure, while it leaves excision and amputation, the two more radical operations, still in reserve Even should the more serious operation follow, the loss of time especially in children, will be more than compensated for by the increased growth of the limb

WRIST AND ANKLE

Erasion —The ankle, wrist, tarsus and carpus may be considered in a single group, as the course of the disease in these joints is closely allied The complicated character of the articulations involved makes extensive infection of the area very probable, and conservatism is almost universally recognized as the proper course of procedure

The exclusion of all operative methods, as advocated by some authors, is unwise, and radicalism as to early amputation is equally wrong A large number of these cases can be saved, and a useful walking member with movable joint can be obtained by the proper application of simple *erasion,* that is, the removal of diseased structures only and the continuance of proper mechanical appliances Subsequent progression depends largely upon the situation of the foci In an extra articular ostitis that has involved cancellous tissue chiefly, the chances of securing good results by erasion without joint infection are excellent By thorough removal and subsequent injection of anti-bacillary substances, arrest of the tubercular process is common I have frequently secured excellent results by repeated gougings of small areas as they appeared, and the joint surfaces have entirely escaped contagion

In young cases, where time is not a very serious matter to the patient compared to the benefit to be obtained, these repeated operations are most helpful, as excellent movable joints are thereby secured In more serious cases, the disease will involve the tarsal or carpal articulations, and extensive removals may become necessary, yet, in many even of these cases the disease can be eradicated without loss of limb

For these reasons, conservatism, even though carried to an extreme degree, is desirable, save in those cases where the tubercular process is intense and the resistive power slight, in the latter cases, amputation should be thoughtfully considered In erasion, knife, scissors and gouge are to be employed until apparently normal bone is reached Whenever it is possible to avoid the osseous structures underlying the cartilage the operation should be arrested, since cartilage is almost certain to die and implicate the adjoining articulation It is impossible to be certain when all the invaded soil is removed, but fortunately, nature is able to overcome a moderate number of bacilli, and it is not well to open and invade any unnecessary articulation When in close proximity to an articulation a certain number of cells, even though left behind will be destroyed by phagocytic action, or a second operation may be undertaken

Portions of the tarsus and carpus which are liable to infection and can not be reached through the wound may be helpfully influenced by cataphoresis, that is by driving iodoform into the tissues by the positive pole of a battery, using a current of about 5 milliampères By this method, or by hypodermic injections of iodoform in the region of the joint, the progress of the disease can often be arrested

The incisions for erasion will vary with the site of the infected area, but for large removals I prefer the long lateral cuts as in excision

The only guide as to the limit of removal is the extent of the disease In children, the epiphyseal line should be avoided if possible Unfortunately, however, in cases which demand excision, avoidance of this line is seldom feasible The removal of the end of the tibia and fibula, together with the astragalus, necessarily shortens the leg very seriously, and ordinarily results in a stiff joint In a large number of cases it is doubtful whether the patient is as comfortable as he would be with an artificial limb, practically nothing can be gained in growth if the lower epiphysis is removed

In the carpus after operation, thorough fixation should be enforced by plaster of-Paris, or other fixed dressing, which will prevent motion and relieve the resulting inflammation Drainage, cleansing and local injections of sterilized iodoform oil (10 per cent) are essential in the after-treatment

At the ankle and tarsus, the inflamed parts must be absolutely protected from the weight of the body, not for an instant should a step be taken upon the diseased member Crutches should be used, both before and after operation

Thorough drainage is necessary and demands the most careful attention to prevent subsequent contamination which will increase the suppurative process The great fault in such cases on the part of the surgeon lies in his failing to continue asepsis A wound can escape contamination for weeks and even months, but only by the most scrupulous attention to the laws of cleanliness I have seen chronic sinuses kept sweet for eighteen months, but it demands " eternal vigilance "

At the wrist the lateral incisions will frequently give good exposure, with the least injury to important structures

For reaching the tarsus and carpus the only rule to follow is to avoid vessels, nerves and tendons as much as possible and yet secure thorough removal Many surgeons employ one or two long dorsal longitudinal incisions with transverse cuts if necessary If tendons or nerves are cut during the operation they should at once be sutured with sterilized silk or catgut chromicized If one incision only is used at the wrist, it should extend from the middle of the first metacarpal well upward upon the radius As tendons are divided the ends should be grasped with forceps, marked in pairs

Excision —A formal excision is desirable in more advanced cases where the process has advanced to large destruction of bone tissue, surrounding one or more of the articulations, where the general health presents evidences of succumbing to the disease, yet where there is reasonable hope of saving the limb from amputation

The ankle or wrist joints are first involved ordinarily, although the tarsus and carpus may be primarily the seat In the latter case, amputation is the more common, especially in tubercle-saturated patients

In operating upon the ankle, the line of incision will vary with the exigencies of the case, but I have found that very satisfactory exposure can be made without injuring the vessels, nerves and tendons by two long, lateral, curvilinear incisions, which can be extended as desired by cross cuts when both the astragalus and malleoli demand removal The peroneal tendons are difficult to hold aside, but can frequently be saved by using a retractor, or by carrying around them a thread of silk, which is less in the way of the operator If divided, they should be sutured with silk or chromicized catgut In the tarsus, I rarely make a cross dorsal cut (although the tendons can be sutured), as I am able to make a satisfactory atypical excision through long lateral incisions I have never employed an osteoplastic operation, even when the os calcis had to be removed

The most useful saw for joint-work is a key-hole saw made on the principle of Adams' blade, but with a longer cutting face This can be easily managed and can be manipulated without injury to the surrounding parts A strong, S-shaped bone retractor is also useful for lifting out the tissues and protecting them A strong blunt knife is also of advantage in making the dissection

Amputation is often necessary in extensive destruction of joints and especially in adults

KNEE

In children under 12 years of age it is exceedingly important to preserve the epiphyseal line in order to secure growth for as long a period as possible Erasion is, therefore, preferable to excision in all cases where it can be done effectually The incision varies with different operators, I do not deem it of any special importance My preference is the horse-shoe flap with the convexity downward, as stitching of the tendo-patella can be more easily accomplished than suturing of the sawed patella when the straight incision is employed, and better drainage can be secured than when the convexity of the flap is upward, moreover, it gives excellent exposure of the articular surfaces and thorough examination can be made In some cases lateral incisions alone are sufficient to permit removal when the foci of disease are few The spoon, gouge, knife and scissors should be thoroughly employed until all the diseased hard and soft tissues are removed, the hollow-handled flushing spoon being particularly useful to carry away the *débris* Diseased synovial membrane throughout the bursa should be thoroughly removed even though patient search is required Boiling water may be freely used to destroy the remaining bacilli, or the cavity can be filled with an alcoholic solution of acetanilid or a sterilized glycerin emulsion of iodoform

In a few cases it will be possible to close the wound without drainage, but where purulent infection is decided, it would be better to drain with rubber tubing for at least a week

In cases over 12 years of age, and in adults where the destructive process is not too extended, a formal excision is usually preferable, although erasion can sometimes be profitably employed, particularly where infection seems moderate In the latter case, lateral incisions with scraping and drainage are rarely sufficient

As to the incision, the same rule applies as in erasion In an adult, particularly, the incision should extend well above the diseased bone, and all the foci should be gouged unstintingly A butcher saw with reversed blade to saw from within outward, with proper protection of the parts beneath, is an excellent instrument Occasionally, the key-hole saw answers nicely, but the angle of removal can not be so accurately determined as with a larger instrument It is very important for the surgeon to train his eye to make the section at such an angle as to bring the tibia in good line with the femur without a second cutting As a rule, the popliteal tissue will yield sufficiently to permit the straight position, but if there is still interference the contracted tendons can be divided

The patella need seldom be removed unless diseased, as it is of service if the tendon is stitched *in situ*

Amputation—In children, the cases demanding primary amputation will be few, but occasionally the destruction of bone and joint by saturation is so extensive that removal is the only operation promising hope of life In adults, the removal of the limb may frequently offer the best hope of life and of usefulness.

As to suturing of the bone, I prefer to trust to external appliances If plaster-of-Paris is properly applied, good results can be secured, but a bracketed splint for adults is sometimes useful A plaster cast can be freely opened on either side and the anterior and posterior halves can be removed for dressing, while the limb can still be held in good position without disturbance of the parts

With thorough asepsis, dressings are infrequently required, and in children there is less disturbance and pain Drainage tubes should be removed early After healing, an apparatus should be worn until all tendency to deformity has disappeared

HIP

The question of erasion at this joint is one which depends largely upon the amount of disease, the age of the patient, the amount of suppuration, etc It certainly is an operation far less successful in this joint than at the knee, ankle or wrist

In cases demanding early opening the pains are often severe and nothing short of complete excision of the upper end of the bone is advisable In a few cases, however, where the exploratory incision demonstrates fairly good joint surfaces, the foci of disease may be removed by gouge, and the loss of bone substance and consequent shortening so frequently found in excision in young children may be avoided

In osteomyelitic cases this puncturing of the bone with subsequent drainage is useful

The disadvantage of erasion lies in the fact that it is almost impossible to decide as to the limit of the disease, and the continuation of the process ultimately demands excision, the latter operation is therefore the one employed by the majority of surgeons, as its results are beneficial in shortening the time of suppuration, and a fairly good walking member is secured.

I realize thoroughly that operative interference tends to disseminate the tubercle bacilli and, if undertaken, the extirpation should be thorough, hence the desirability, as already stated, of complete removal

The two most practical routes by which the joint is to be reached are the anterior and lateral incisions, the anterior incision is the most suitable for exploration and where sinuses have already formed in this region This incision is made so as to interfere as little as possible with the muscular tissue, the cut being begun just below the anterior spinous process and extending downward as far as necessary, the object being to enter the joint between the sartorius and rectus on the one side and the tensor vaginæ and glutei on the other By this route both muscles and blood vessels are uninjured When the neck of the bone is reached the capsule can be divided, exploration of the head, neck and rim of the acetabulum can be made, and the amount of the diseased bone decided upon A strong blunt knife assists greatly in the process of clearing the bone, and the neck can be divided without injury to the surrounding tissue, with a narrow key-hole saw, guided and guarded by the finger

The head of the bone is often with difficulty released from the socket This may be accomplished before section of the neck by manipulation of the femur and the use of a blunt knife or, as I usually prefer, after section of the neck by grasping the fragment with strong lion-jaw forceps The ligamentum teres, if intact, must be severed I have found a flexible knife, which can be made to conform to the acetabulum, useful in dividing this structure All the diseased structure should be removed from the acetabulum and the surrounding area with thorough flushing, and with perfect asepsis the wound may sometimes be closed and perfect union secured The joint should be filled with iodoform oil In bad cases both gauze and rubber drainage should be employed for the first few days, the gauze being removed at the first dressing, and the rubber tubing as rapidly as possible

When the suppurative process is severe, a posterior opening may be made and thorough drainage instituted This method is most useful in the cases already described, or where the head of the bone has become separated and lies as a sequestrum

In old or largely suppurative cases the lateral incision over the trochanter is desirable, as it gives a larger exposure of the joint, and when the trochanter is to be removed it is decidedly better Whenever it is possible to strip off the trochantic attachments of muscles in a comparatively healthy bone, this method should be employed, as subsequent motion is thereby improved As the femur is often extremely fragile in these cases where the ostitis has extended throughout the entire shaft, great care should be taken not to fracture the limb, especially in making rotary movements

If the disease seems to have a definite limitation it will be better for subsequent locomotion to leave the trochanter, even if the drainage is somewhat interfered with by its retention In these cases the drainage may be supplemented by a posterior opening, which often compensates for lost lateral space

The power to steady the femur upon the pelvis is so important in locomotion that the retention of all possible muscles is essential, consequently I retain the trochanter whenever it is safely possible I can show cases of excision when the femoral head and neck have been removed through an anterior incision, that can stand upon the toes of one foot without assistance and flex the thigh upon the pelvis beyond a right angle, can abduct and adduct the limb and have no deformity but shortening, a result which is a great improvement upon the condition attained after excision of the trochanter

The majority of hip excisions, however, leave the patient a cripple for life, which readily accounts for the persistence with which many surgeons adhere to the conservative methods of treatment, and as an ankylosed limb in fair position is usually more serviceable for locomotion than an excised joint, the resection should not be undertaken until it is certain that suppuration will occur or that danger to life will ensue by delay

The results to be feared are the exhaustion from long drainage, amyloid degenerations and general tuberculosis While excision aims to remove the dangerous tubercular foci, yet the operation sometimes rapidly disseminates the disease In a child with a bad antecedent history, an excision should be performed earlier than in a healthy child Long continued, or very profuse suppuration also calls for surgical interference to avoid waxy degenerations When in doubt, an exploratory incision is advisable, especially if suppuration is present

In general, a case which is progressing unfavorably in spite of good mechanical treatment, with evidences of systemic infection, demands interference Acetabular disease, when manifested by suppuration within the pelvis, is best arrested by thorough removal and drainage Amputation is usually reserved for adult cases with old and suppurative sinuses and marked caries

ELBOW

In this region, erasion is decidedly the best operation for young children by careful gouging of the diseased areas a very fair member can be secured Whenever possible, the attachment of the biceps and triceps should be left intact When the entire bone must be removed the retention of the periosteum, (if healthy) at the points of muscle insertion is advantageous Quite frequently the cancellous tissue of the olecranon can be gouged without disturbing the insertion of the triceps

The incision for erasion may be lateral, but a focus in the ulnar is rapidly reached by a cut made directly over the olecranon For formal excision, a posterior long incision directly over the olecranon, or two lateral posterior ones with cross cut, will give good exposure and save also the ulnar nerve

The head of the radius is liable to disease, but section of the neck will often permit retention of the biceps I have not found much difficulty in drainage, even when I have sawed through the olecranon and left it *in situ* For excision, the narrow saw and ronguer forceps are the most useful instruments in addition to the gouge and curette Care must be taken to remove every particle of diseased tissue, whether excision or erasion is employed, and the parts should be flooded with bichlorid and afterward with iodoform oil and other antibacillary substances

Drainage tubes should not be retained too long Plaster of-Paris makes the best subsequent dressing, as the cast can be made thick at the bend of the elbow by longitudinal reverses, thus giving strength to the dressing when the windows are cut Amputation is seldom required except in adults or in the worst class of cases

SHOULDER

The rarity of tubercular disease at this joint makes it difficult to speak with certainty as to definite results My personal experience has been so limited that I can not speak from that standpoint, but my opinion is that erasion is decidedly the best operation for this region, and that it should be done as early as possible, as soon as the presence of pus is determined, The incision should be made so as to avoid as much as possible, interference with subsequent muscular action, and the vessels and nerves should be left unmolested I have never seen an amputation for this condition

CONCLUSIONS

1 When operative measures are demanded, erasion is the preferable procedure, as it gives less subsequent deformity and results in better locomotion This operation is especially applicable at the ankle, wrist and shoulder, frequently at the knee and elbow, rarely at the hip

2 Excision is most useful at the hip It is also largely employed at the knee and elbow, more rarely at the other articulations

3 Amputation should be employed in rapid and extensive degenerations at the ankle, knee, wrist, elbow, and in old hip cases which have relapsed after excision

4 In children, the less mutilatory operation should be first employed, even though repetition is required, but in adults, temporary operations are seldom advisable

5 The necessity for operative treatment in joint diseases arises from neglect of proper mechanical measures Protection and fixation of the joint in the early stages of tubercular invasion will nearly always result in a cure with movable joint and good function These measures together with antibacillary injections and cataphoretic in-driving of iodoform are steadily decreasing the number of cases demanding operation Motion and traumatism are the chief causes of inflammatory complications in tubercular ostitis, and often result in such an amount of suppuration and loss of bone as to demand removal of the diseased tissues

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EXSECTION OF THE KNEE-JOINT,

WITH REPORT OF A CASE OF COMPLETE DISLOCATION OF THE KNEE, OF NINE YEARS' STANDING, AND WITH SPECIAL REFERENCE TO METHODS OF FIXATION

Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10 1895

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Early in May, 1894, Maggie D, a wholesome young girl of German parentage, came under my care for a slight malarial trouble In the course of the attendance, which was only three or four days, I discovered that the girl was severely crippled in her left leg, She was otherwise a healthy, robust, well-formed young woman, of 21 years of age, but she was utterly unable to move a step, even about the house, from chair to chair, without the aid of a crutch, which she kept constantly at her side In attempts at locomotion, or standing, with this leg, the toes of the foot only touched the ground, and the body sank down a foot or more, and gave the appearance as if falling

Her story was, that nine years before, when 12 years of age, while running on the frozen ground, her left foot fastened in a hole and she was thrown down and suffered a severe injury of the left knee She was conveyed to the house and left to lie on a couch for a week or two Then a physician saw her, and after a short and imperfect examination gave the opinion that it was a strain of the joint which would be well in due time. But from that time on, for over nine years, she had not been able to walk a step on that leg

Examination at once revealed a complete dislocation of the knee in the antero-posterior direction, the head of the tibia being thrown into the popliteal space, and the condyles of the femur down upon the front of the tibia The leg was bent at an angle of nearly 45 degrees from the line of the thigh, the whole limb was shrunken and poorly developed from its nine years of enforced idleness There was slight motion at the knee and the shortening from the anterior superior spinous process of the ilium to the internal malleolus in a straight line was five and one-half inches Part of this, perhaps one inch, was in consequence of the angle at the knee Her gait in walking with the crutch was, slow, jerking and exceedingly ungraceful The young woman was keenly alive to her crippled condition, and the fear that she was to go through life in this deformed state caused her almost constant anxiety and unhappiness When, therefore, an operation was mentioned, looking to her improvement she gladly assented Near the end of the month (May) she entered the Toledo Hospital, and was made ready for exsection of the bones composing the knee

Complete dislocation of the knee of nine years' standing Unable to walk without a crutch, or use the limb during that time

In considering the methods to be used in the conduct of this case, I resolved not to employ for fixation the steel drills, as advised and used by Wyeth, nor the bone or ivory pegs used by others, nor indeed but little, if any, of the so-called internal or direct methods of fixation Such methods are in some cases painful and irksome, and in all cases not more effective than external supports I could not then see, and can not now, how the bones, in exsection of the knee, differ, or should receive different methods of treatment from those in transverse compound fractures of the femur Neither did it appear that the excessive and cumbersome bandages including the pelvis, generally used heretofore in these cases, were either necessary or advantageous

Briefly, the operation and after-dressing were as follows the patient being anesthetized and the limb having been prepared, an incision was carried across the knee from condyle to condyle, and an upper and lower cuff dissected back a sufficient distance All of the structures in front and under the condyles, including the patella and some extraneous osseous material, were removed down to the tibia The condyles were carefully bared, pushed out of the wound, and one and three eighth inches removed by the saw The leg was now well flexed on the thigh, the head of the tibia cleaned and pushed out of the same wound, and three eighths of an inch of the articular surface of this bone removed On straightening the leg now, the bones came together fairly well, but the leg was so nearly cut off and was so loose and unsteady that I confess to having had a temporary weakness come over me, and decided to use some internal fixation Hence, six chromicized catgut ligatures, three on a side, and one silver ligature in front, were applied to the divided bones The hemorrhage was trifling, and when completely arrested, a few strands of catgut were left in the wound for drainage, the periosteum was drawn down and carefully stitched with catgut, the external flaps treated in a similar way, and the line of the wound sealed with iodoform collodion, the drainage strands only protruding Two layers of sublimate gauze were next applied, covering the entire foot and leg, reaching well up on the groin An envelope of absorbent cotton was wrapped evenly around the limb, extending above and below the wound a few inches The whole limb was now neatly and carefully wrapped in a well-fulled flannel bandage, and a plaster of-Paris bandage applied from the toes to the groin During the application of this latter envelope, strips or splints of wood (ash), five-eighths of an inch wide and one-eighth of an inch thick, were inserted as the binding went on, reinforcing, so to speak, the plaster, and giving an instant steadiness to the limb These strips were four in number, two under and one on either side of the limb, extended from the ankle to the body, and were permanently embedded in the plaster envelope

Ten months after operation (exsection of knee joint), has good use of the limb walks long distances without crutch or cane

The patient made a good recovery from the anesthetic and operation, and from the hour of her returning consciousness until the present, has repeatedly stated that she never felt the slightest motion of the bones upon one another So far as her feelings and sensations were concerned, as well as from all other indications by which the surgeon might judge, the fixation was instant, complete and permanent

The further progress of the case was uneventful About thirty-six hours after the operation some reactionary fever began The pulse rose to 120 and the temperature to 104 in the course of a few hours Pain and restlessness occurred to such a degree that a hypodermic of ¼ grain morphia was given with much relief, and in a few days a nearly normal condition of the system returned, and continued until the patient was discharged cured

About three weeks after the operation the bandage over the outside of the knee became stained from some internal discharge, and a trap was cut through the plaster down to the wound, when it was found that a thin edge of the upper border of the lower cuff about one quarter of an inch wide and three inches long across the limb had died, and was being cast off The parts were cleaned and absorbent cotton pushed in around the wound, which was covered by iodoform gauze, and this dressing repeated two or three times daily, thereby keeping the wound and adjacent parts perfectly clean In about one week the slough became loose enough to be, and was removed, leaving a perfectly clean wound one quarter of an inch wide, two and one-half inches long across the limb, and one half inch deep In the bottom of the wound the silver wire lay loose, but partly covered by the granulations, and as it was serving no purpose I divided it and took it away No bone could either be seen or felt in the wound, which was re stitched with catgut and made quite tight, covered with gauze and bandaged In about two weeks more the wound was healed, and in seven weeks from the day of the operation the plaster and all coverings were removed from the limb, which was fully healed and appeared quite strong The patient was now allowed to go about the ward, and in pleasant weather out of doors a little, on her crutches, wearing only a bandage and some slight support around the knee Within three weeks thereafter the limb had acquired sufficient strength for her to stand upon that leg, and make some little attempts at walking with it She was discharged from the hospital and from all surgical care and attendance ten weeks after the operation, with a straight limb and one which was already serving her somewhat in walking

The progress in usefulness and strength in the limb has steadily continued, and now at this writing, ten months after the operation, she walks without crutch or cane, getting on street cars in crowded streets, and walking miles even, without pain or fatigue In fact, she is acting as a house girl in a private family, and is upon her feet more or less all day Her gait has also become quite normal, and when walking at a moderate pace, no halt or limp is noticeable

She wears under the shoe of the affected limb an iron support of just two inches, and uses the limb with a freedom and confidence quite surprising, considering the short time which has passed since the operation

Two points of practical value are sought to be proved in the report of this case The first is, that in exsection of the knee joint all internal or direct fixation, especially of unabsorbable material, is unnecessary, and sometimes undoubtedly interferes with the healing process, and that external support by means of the plaster bandage, strengthened by wooden strips, gives instant and permanent fixation There are two purposes, however, which chromicized gut serves in these cases, namely these ligatures aid somewhat to keep the bones steady in the handling which takes place during the dressing of the limb, and also they prevent the crowding in of the soft structures between the ends of the bones For these purposes, but not for any purpose of lengthy fixation, a few heavy strands of gut may very properly be used But all such measures as steel drills, ivory pegs, or other similar methods, should be abandoned, for they, as before stated, are often painful and irritating, literally as a thorn in the flesh, and do not serve the desired purpose as well as the method here described

The second point in connection with this case is, that the practice of extending the bandage up onto the pelvis, while it is irksome and painful to the patient, is not necessary to secure entirely satisfactory results Many times during the progress of the case I found my patient, on arriving at her bedside, in a half-sitting position, engaged in reading or light needlework, and insisting that this position she knew did not affect the bones of her leg The partial, even quite limited use of the hip joint, affords much relief to the tedium of the weeks which must pass during the process of bony union In conclusion, the opinion is here expressed, that by the employment of the methods of fixation and bandaging here described, operators will secure not only the best surgical results attainable in these cases, but they will also receive the grateful appreciation of their patients for rendering their condition as painless and comfortable as possible during the period of repair and convalescence

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FLAT-FOOT—ITS CORRECTION AND COMPARATIVE STUDY WITH THE FOOT OF THE ORANG, CHIMPANZEE, GORILLA AND BABOON

(ILLUSTRATED BY PHOTOGRAPHS)

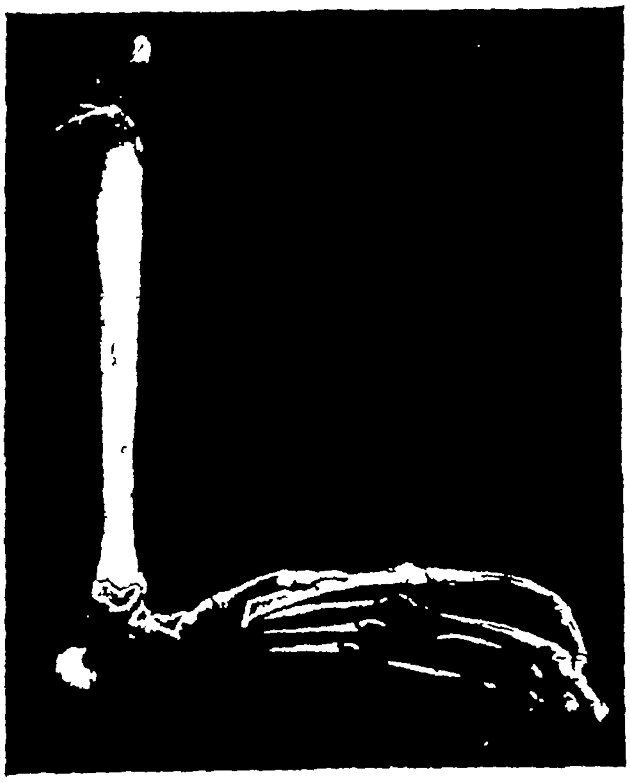
Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md May 7 10, 1895

BY B MERRILL RICKETTS, PH B, M D
CINCINNATI OHIO

Of all misfortunes in the way of orthopedic deformities, I believe there can be none worse than aggravated forms of flat-foot The patients must not only suffer the humiliation of being deformed, but must suffer pain in many instances to the degree of absolute helplessness, and of but little use, unless it be to the instrument makers They have usually experienced all kinds of treatment, both medical and surgical, have taken all the rheumatic remedies and applied the greater number of patent nostrums for the relief of soreness When once the deformity becomes painful, either from trauma or the natural consequences of such a deformity, there seems to be no means of relief, especially for that class in which flat-foot is most commonly found That the cause of flat-foot is primarily rachitic, I am not quite sure, as I believe that there is as great variance in the shape of the feet as there is in any other part of the anatomy We have differently shaped hands, and why not differently shaped feet? The measurements of the hands vary materially with individuals, sometimes they vary in the same individual Just so do the feet vary, and especially the arch of the foot, some are higher, while others are lower than the average If a foot with a low arch should be subjected to an injury in such a way as to diminish the height of that arch, it is to be suspected that the patient will suffer more or less inconvenience from the changes

I do not wish to be understood as challenging the theory, which many investigators have set forth and advocated, viz, that flat-foot is usually due to a rachitic condition I believe that rickets is responsible for a large percentage of flat-foot

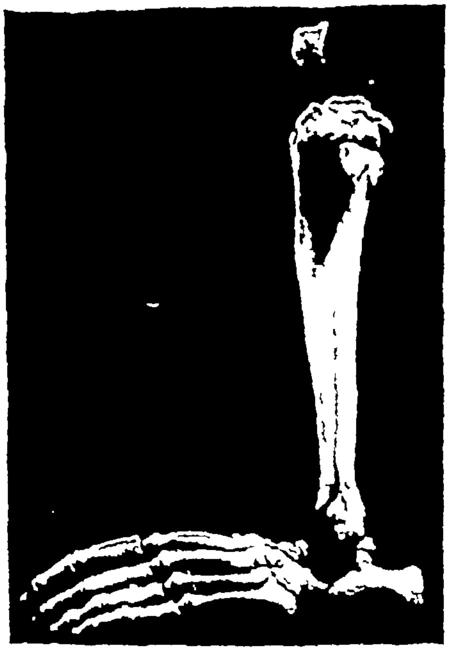
When we take into consideration the bony structure of the foot of man's nearest allies, I do not believe it is safe to say that all flat-foot is of rachitic origin, especially while the effects of trauma are so well known Man being the only true biped, it is interesting to study the most conspicuous differences between him and his nearest relations, those which but occasionally become erect, though the erect position has caused the foot to become flat and the great toe shortened, and otherwise modified, through the influences to which the loss of power of prehension can be attributed, there is an arch in the foot of man that does not exist in that of his allies This, however, is not the case in all bipeds, for there are still certain savages that retain the power of prehension, as shown in their ability to climb trees Some apes are now undergoing this evolutionary change Baboons are to be found among the hills and rocky districts only climbing trees from necessity In them, we find a foot that is flat to the highest degree The gorilla runs in a sidling manner and rests on its hands and feet This, perhaps, is due to the excessive flatness of its foot, the ends of the toes being bent under to take the place of the arch Some of the hylobates can walk or run upright The construction of the hands of the quadrumana is of the same pattern as those of man, but not so symmetrical or well adapted for diversified use Some of the monkeys, the chimpanzee and the orang-outang, walk on the margins of the palms or on the backs of their bent fingers



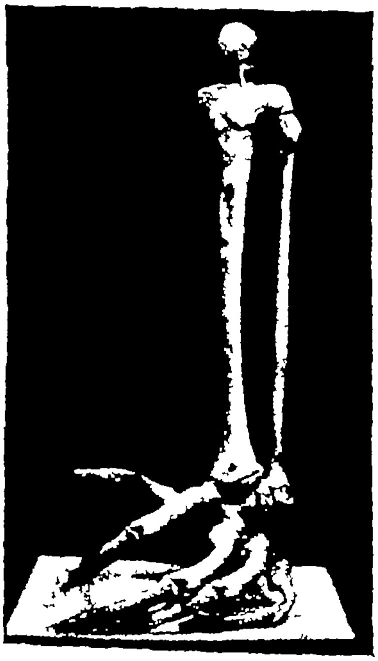
1 Orang

This is perhaps due to the great length of the hand, a condition necessary for climbing However, the greatest climbing monkeys in the world are the

American ateles and the Asiatic hylobates, which have rudimentary thumbs, the fingers being converted into hook-like appendages There came a time when a difference in the construction of the hands and feet was necessary, perhaps due to the manner of procuring substance, on the ground and not in trees, quadrupedal or bipedal The mastoid process, which is found in the human skull, is the result of the erect position of man, and they are almost rudimentary in the next nearest relative, the gorilla They do not exist at all in the baboon, chimpanzee or orang

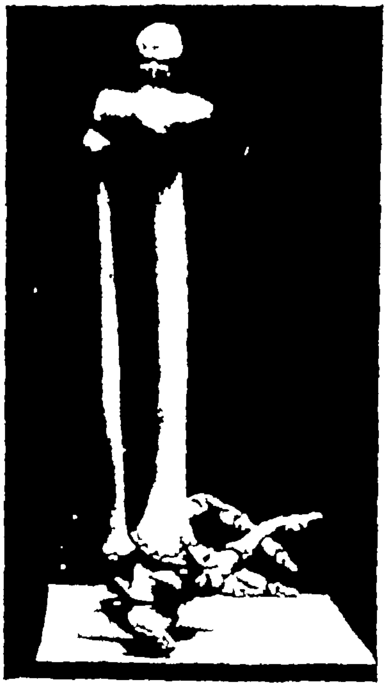


2. Orang

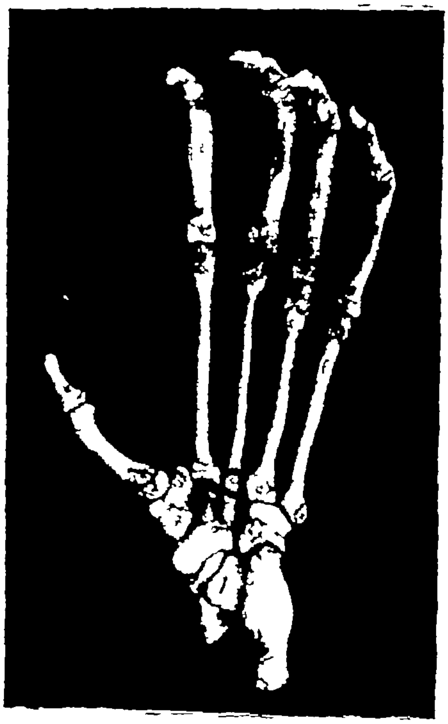


3 Orang

A careful study of the accompanying photographs will, I think, add much to our knowledge of this ab normal condition in man It is a fact that all children are born with flat-foot, and that the arch is developed as the child reaches adult life Accidents, together with a rachitic constitution, are, I believe, invariably responsible for the arch not reaching its highest degree The manner in which the foot is dressed, no doubt, has something to do with increasing the degree of the arch, for in all savages who have not worn shoes we find flat-foot to a greater or lesser degree This is so with the Samoans, Dahomeys and several other tribes of the South Pacific, as observed by myself It does seem, however, that the arch of the foot is increased with the degree of

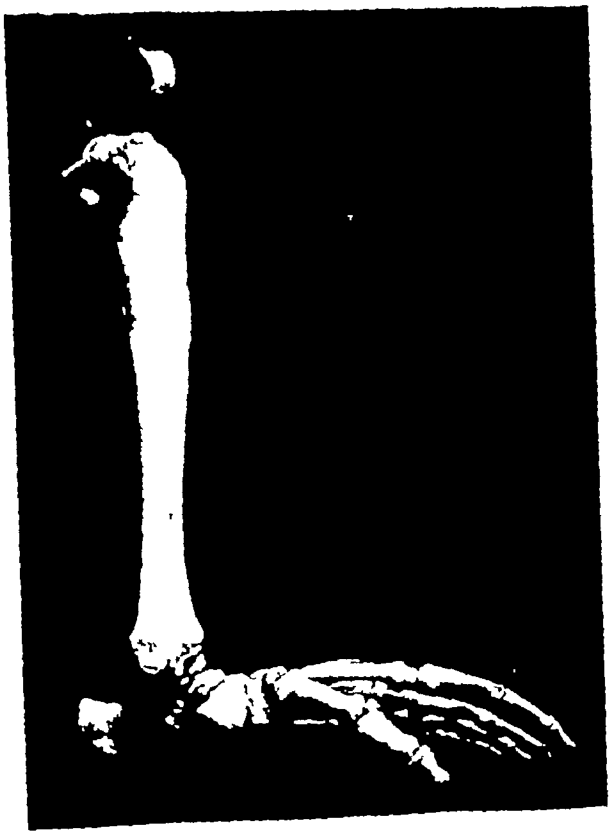


4. Orang

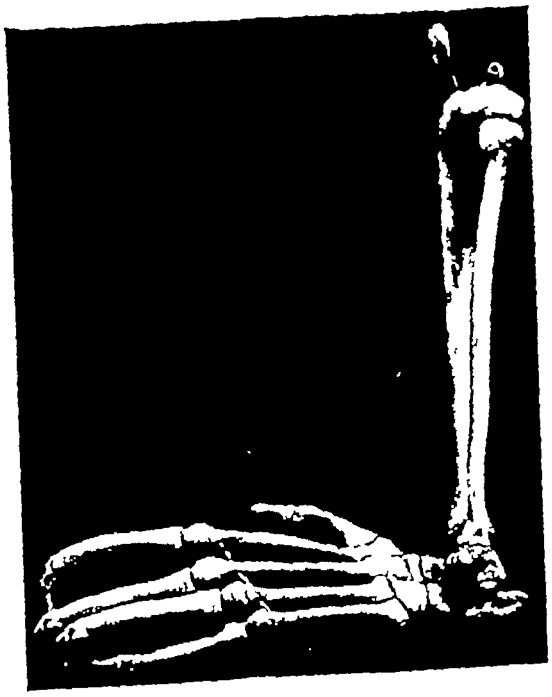


5 Orang

civilization We need not, then, be surprised to find that the arch of the foot will not tolerate the excessive endurance so often imposed upon it, and when this arch has reached its degree of endurance neither should we be surprised in not being able to devise some mechanical means that will answer every purpose intended for a high arch It has been my observation that the fastest runners have the highest arch This, perhaps, may have some bearing upon the subject

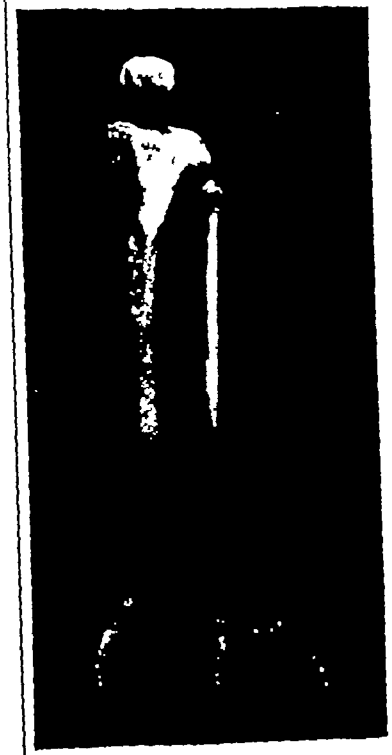


6 Gorilla



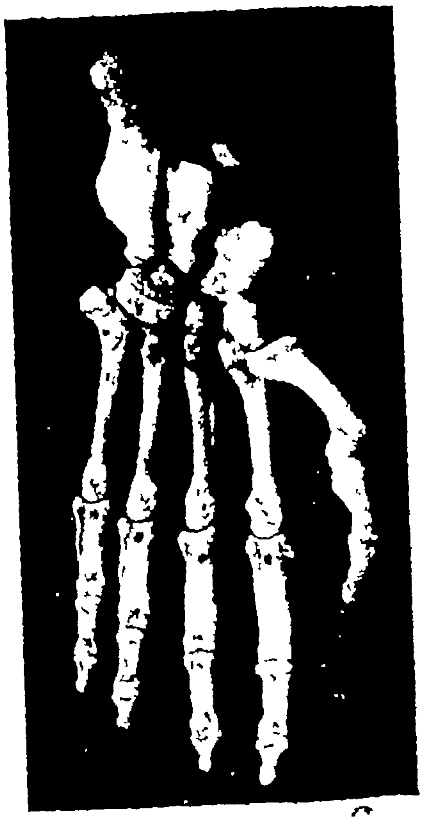
7 Gorilla

This abnormal condition, flat-foot, naturally falls within the domain of orthopedic surgery, and it is only in the most simple cases that any kind of appliance gives any benefit whatever, it being seldom claimed that the benefit is permanent I do not believe it makes any difference what the cause is in these most aggravated cases, there the remedy would be the same, whether congenital or traumatic I believe that many of the milder ones are benefited by some one of the many appliances Since the introduction of clean surgery, much more has been hoped for, and it now remains for us to determine which of the surgical operations is to be adopted for the correction of the deformity in those cases which have made the subject helpless and practically an invalid with great suffering Surely the various tarsotomies have been found wanting, also the various operations upon the tissues of the plantar regions This being the



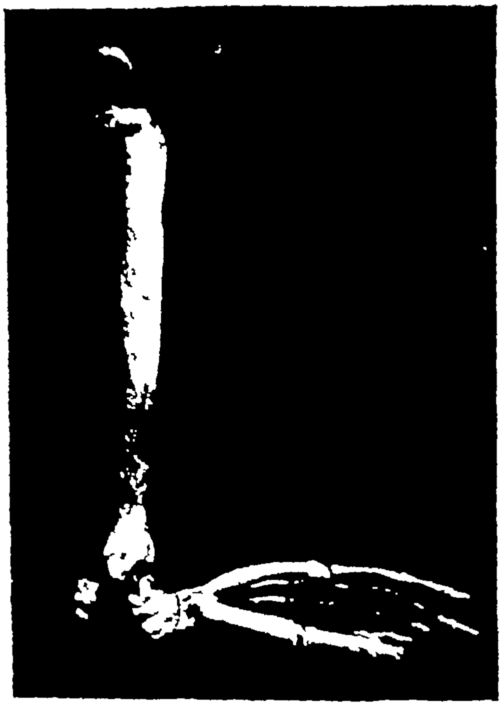
8 Gorilla

9 Gorilla

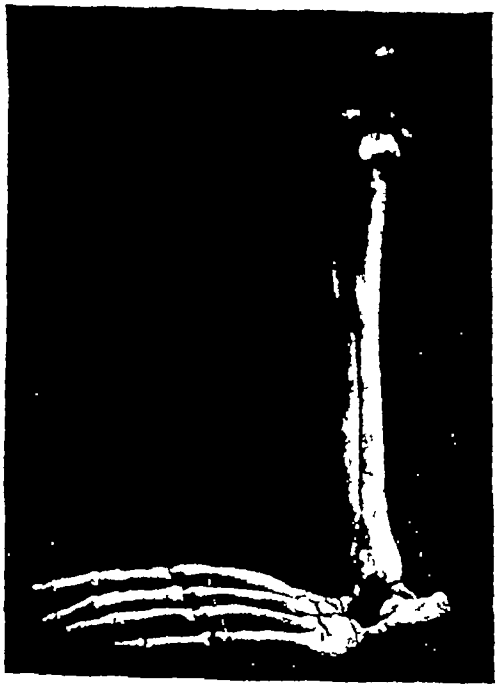


10 Gorilla

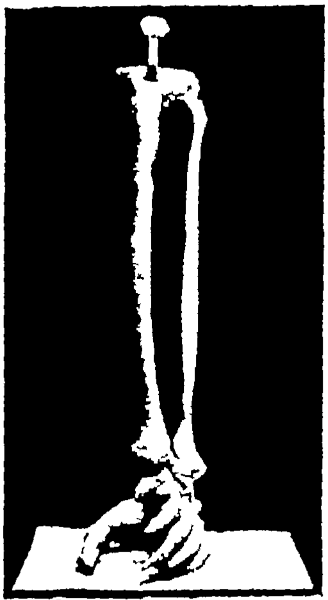
case it seems that for the present there is but one of three things to do 1, to shorten the foot by dropping down the posterior part of the os calcis, thereby raising the arch, as suggested by Gleich, of Vienna, 2, supramalleolar osteotomy (Trendelenburg), 3, amputation of the foot and its substitution by an artificial one Whatever operation should prove the most desirable, to Golding-Bird, Davy, Ogston, Stokes, Wienlicker, Hare, Phelps and Trendelenburg belong the credit of having been the first to substitute the various surgical appliances with a direct surgical operation The first of these seems to have been in 1878, only fifteen years ago Among the later operators we find Willy Meyer, Royal Whitman, Bernard, Roth and T S Ellis In our own country it appears that Meyer was the first to operate, surely the first to operate in the way suggested by Trendelenburg, of Bonne (supramalleolar osteotomy), although he had operated twice in cases of flat-foot, as the result of Pott's fracture, before operating for simple flat-foot according to Trendelenburg



11 Chimpanzee

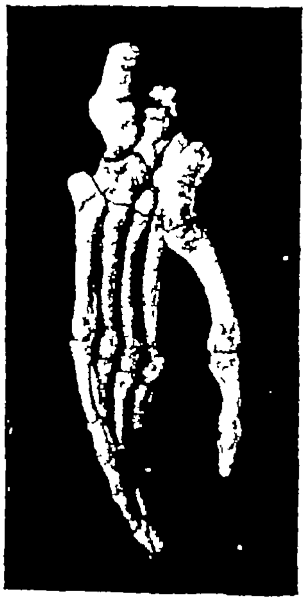


12 Chimpanzee



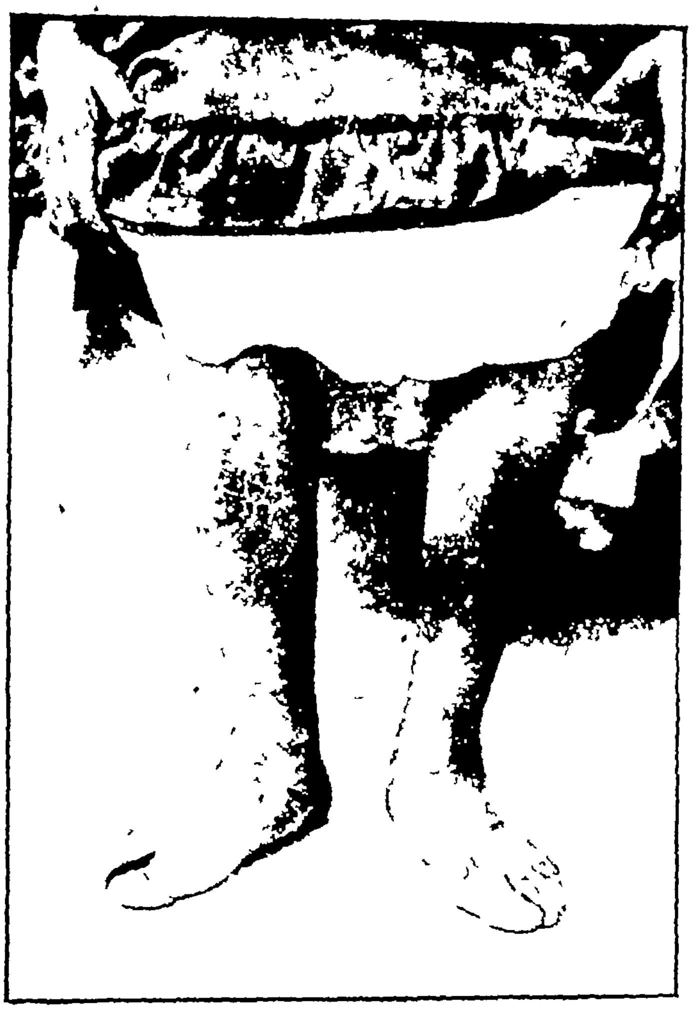
13 Chimpanzee

14 Chimpanzee



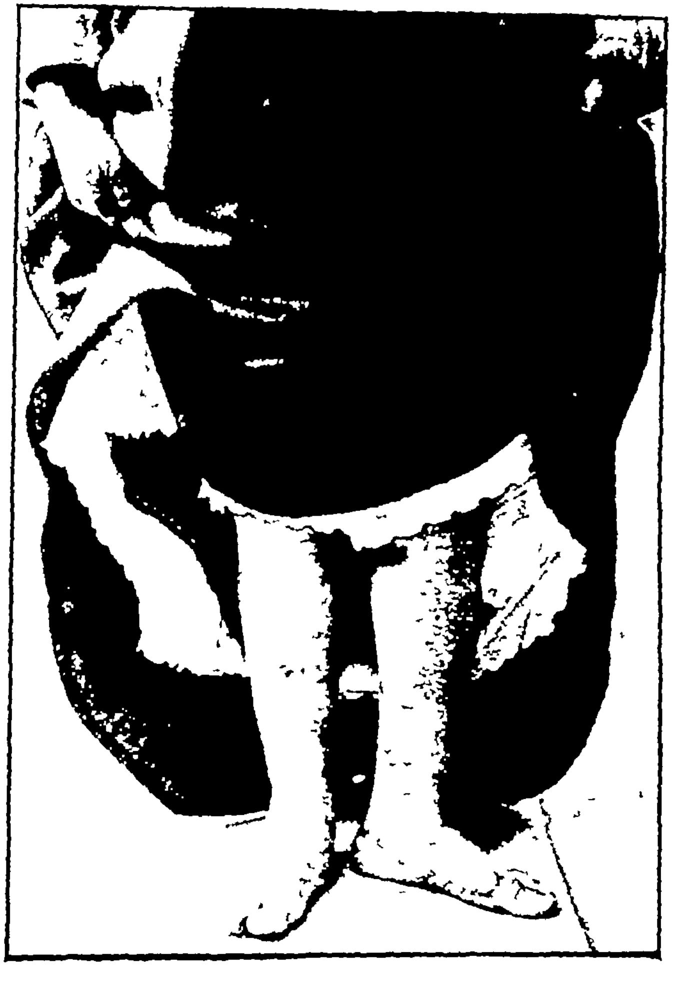
15 Chimpanzee

For my own part, after finding all appliances useless, giving the more aggravated forms no relief whatever, if anything increasing the amount of pain, I have decided that Trendelenburg's operation is the most rational so far presented In consequence thereof, I operated upon a mulatto, female, age 38, weighing about one hundred and fifty pounds Although there was a predisposition to flat-foot, she had no inconvenience at all until at the age of 28, when through a misstep in going down stairs she broke down the arch of the foot, since which time she has been a great sufferer, not being able to attend to household duties for several months at a time The patient had been subjected to various kinds of appliances, having had the foot in plaster for several weeks on several occasions It was not long until she began to have pain in the left foot, the result of overwork Between the two it was necessary for her to use crutches in getting about the house I was consulted on November 7, when I advised one of the various operations suggested for the relief of such deformities It was at this time that one of our most prominent instrument makers declared that he could relieve her trouble. I was perfectly willing that he should be given an opportunity to apply his skill and so permitted him At the end of six weeks her suffering was unbearable, and she was anxious that I take the matter in hand and give her relief in some way Consequently on Dec 19, 1893, I made a supramalleolar osteotomy on each lower leg, while the patient was under the influence of chloroform An incision one inch long, directly down upon the left fibula, two inches from the lower end, was made, the periosteum divided and the bone severed with a chisel, subperiosteal The wound was closed with silkworm gut Time of operation, twelve minutes An incision was then made upon the inner surface of the tibia, in the same manner, and the bone likewise divided at a point corresponding to the division in the fibula This was also periosteal The wound was closed with silkworm gut Time, fourteen minutes The right fibula was divided in the same manner, in a corresponding locality Silkworm gut used for sutures Time of operation, eleven minutes I then proceeded to divide the right tibia After making my incision it was found, upon removing the rubber bandage which had been used upon the other leg, that the posterior tibial artery had been injured I was at a loss to know where the hemorrhage came from, but I soon determined that the artery was in an abnormal position, running along the tibia upon its inner and anterior surface The branch divided was about the size of an ordinary pin, but the hemorrhage was quite severe, necessitating the ligation of the posterior tibial The hemorrhage once checked, the bone was divided and the operation completed within sixteen minutes Silkworm gut was used throughout, a small piece being drawn through for drainage in each wound



16 Before operation.

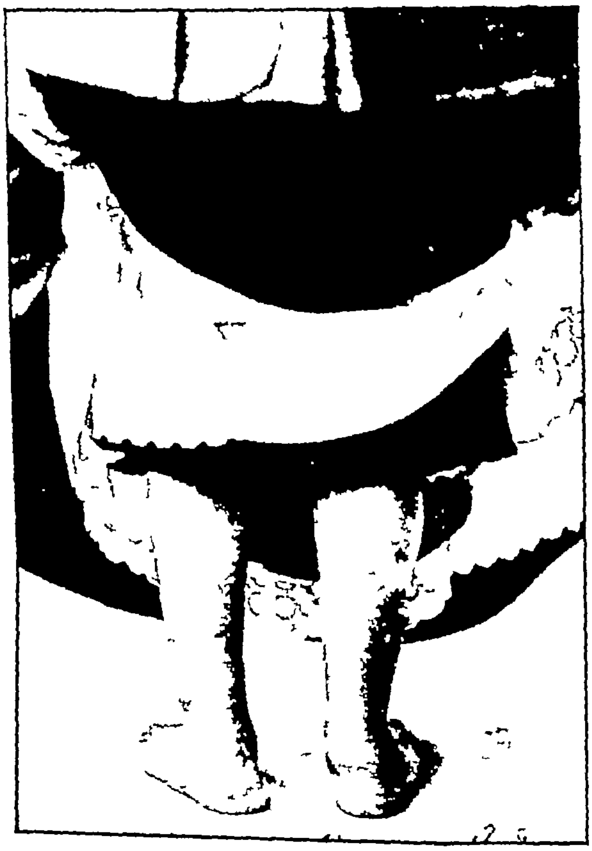
K T age 38, 160 pounds Both feet inclined to flat foot Broke down arch of right foot at age of 28 Disabled four out of ten years All appliances failed On Dec 19, 1893, supra malleolar osteotomy both legs Left fibula 12 minutes, left tibia 14 minutes, right fibula 11 minutes, right tibia 16 minutes Fenestrated plaster of Paris cases Complete recovery with double bow legs (Trendelenburg s operation)



17 Fifteen months after operation

After the incisions had been dressed and the legs banded with cheese-cloth, plaster-of-Paris was applied by my assistants, Drs J V Ricketts, H V Sparger and O S Mills, while I held the foot in an extreme adducted position The left leg was first applied, so I was able to place the right foot in position before its plaster cast became hardened These casts were removed at the end of fourteen days, and three of the wounds found to have united primarily The legs were adducted to a greater degree and new plaster dressings applied The left, however, was more adducted than the right, because it was the more troublesome of the two In fact, the right foot had caused but little trouble, aside from its being overworked The wound which had not healed primarily was upon the left tibia There was more or less trouble for several weeks when a small spicule of bone was removed After this time the union was perfect, and the patient has since been able to go about her household duties without pain or discomfort in any way whatever She is absolutely free from pain, and I might say entirely cured She has gained considerable flesh, weighing perhaps thirty pounds more than at the time, still she does not complain, but says she has not felt as comfortable and as free from pain since the day of her injury, eleven years ago Thus, this case illustrates that the end has justified the means, and I look upon it as one of the most gratifying results that could be obtained in a deformity of this kind

I am free to admit that I look upon supramalleolar osteotomy as the most rational means of treating flat-foot that can not be managed with the ordinary appliances I believe that if the operation is done aseptically it offers more than any appliance, and should be substituted for them without any great hesitancy The division of the os calcis, as suggested by Gleich, does not, I believe, offer the same advantages It is not so rational If either the operation of Trendelenburg or Gleich should prove fruitless, and the patient continue to be an invalid, I believe it is our right to make an amputation of one or both feet and substitute them with artificial ones There are many deformities that are attended with more suffering and pain, loss of time and humiliation than the wearing of one or two of the most ingeniously constructed artificial feet



18 After operation

In conclusion I would say

1 That flat-foot is principally due to one of three causes (a), failure of the tarsus to become arched, (b), rickets, (c), trauma

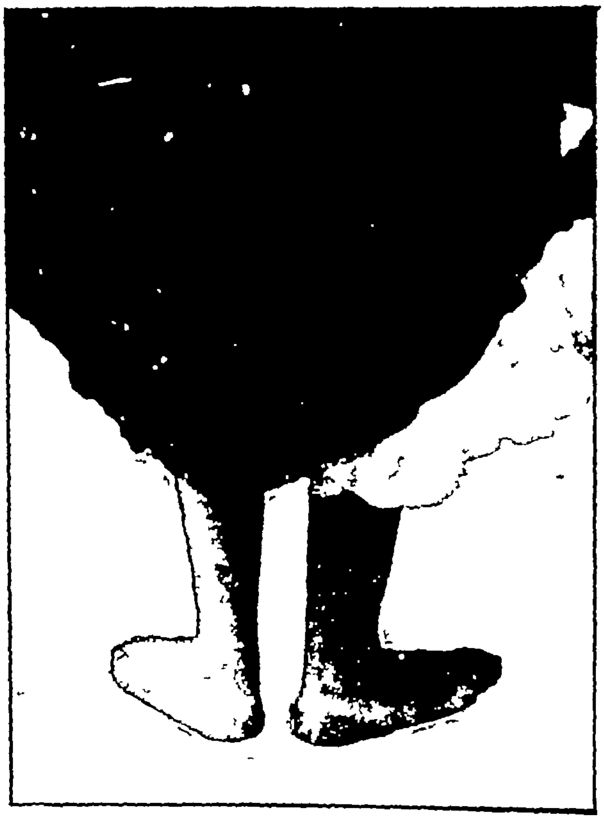
2 That it becomes aggravated with age

3 That all bipeds are born flat-footed—the arch being an after-consideration

4 That the highest arches are found in the fleetest runners

5 That the barefooted races do not have any very perceptible arch or inconvenience

6 That man's nearest allies, the chimpanzee, gorilla, orang and baboon, have but little indication of an arch On the other hand, the tarsus in the chimpanzee, his nearest ally, lies upon the plane, while the posterior under surface of the os calcis does not touch the plane to any degree whatever In the gorilla, however, the posterior part of the os calcis, together with the tips of the toes support the body—the tarsus not touching the plane This is the case with the orang



19 Before operation

7 That the construction of the hands and feet of the quadrumana are of the same pattern as those of man, but are not so symmetrical or so well adapted for diversified use

8 That the manner of dressing the foot in early life is a prominent factor in causing pain and discomfort in feet that are disposed to flatness [1]

9 That the degree of the arch of the foot increases with civilization

10 That but little benefit can be derived from any kind of an appliance, except in the lesser degrees of deformity

11 That the aggravated forms of flat-foot should be subjected to the operation of Trendelenburg or Gleich, regardless of what the cause may be

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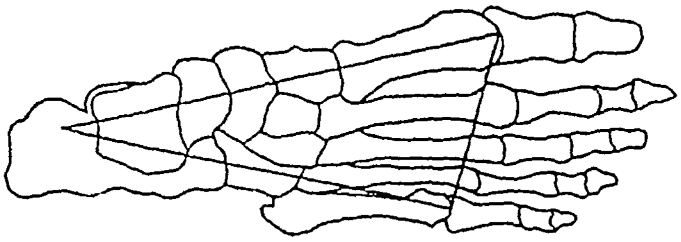
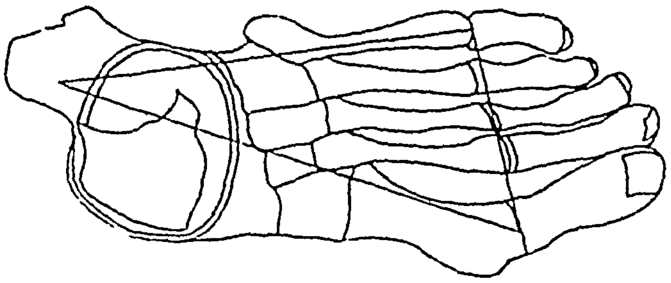
[1] In this connection, I will say that the French Academy of Science has expressed its belief that the small toe in man is becoming rudimentary as the result of the wearing apparel of the feet

12 That so far as can be determined by observation, the relief given by the Trendelenburg operation has been absolute

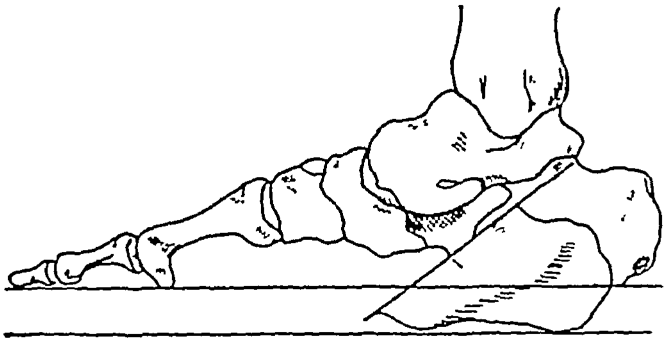
13 All things being equal from a cosmetic point of view, the operation of Gleich (dropping the posterior half of the os calcis) would be the most desirable Nothing but time and the making of a number of operations by each method will determine their relative merits



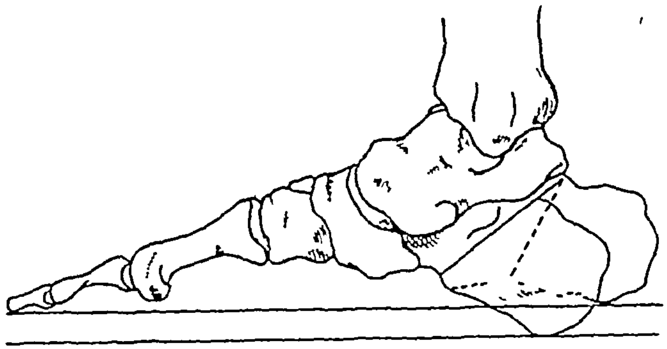
20 Von Meyer's triangle on normal foot



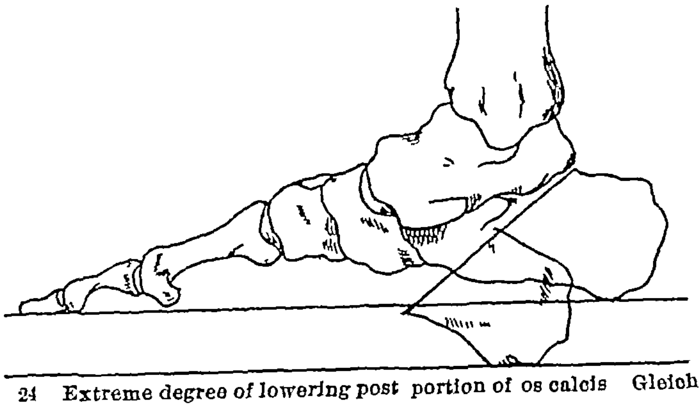
21 Von Meyer's triangle on an abnormal foot



22 Shows position of post portion of os calcis after being divided Gleich s operation



23 Lesser degree of lowering post portion of os calcis Gleich's operation

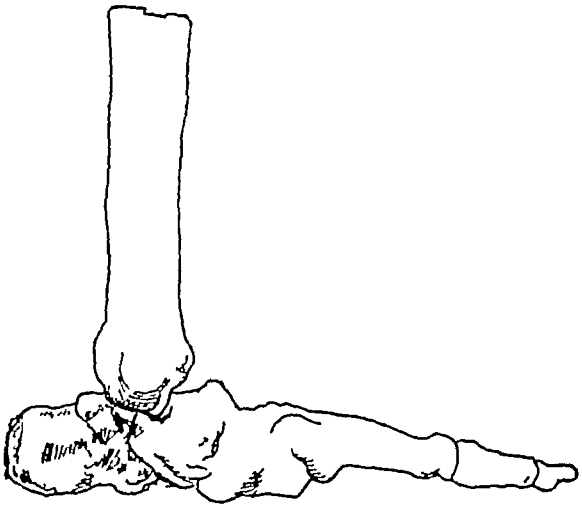


24 Extreme degree of lowering post portion of os calcis Gleich's operation

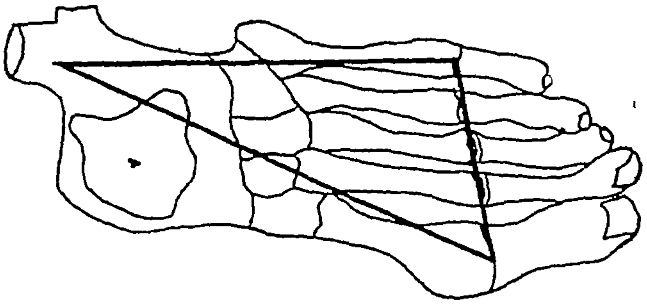
14 That in all cases of Pott's fracture, where flat-foot has previously existed, a cure has always resulted.

15 If the osteotomies are made subperiosteal and aseptically, without complications, no serious results should follow

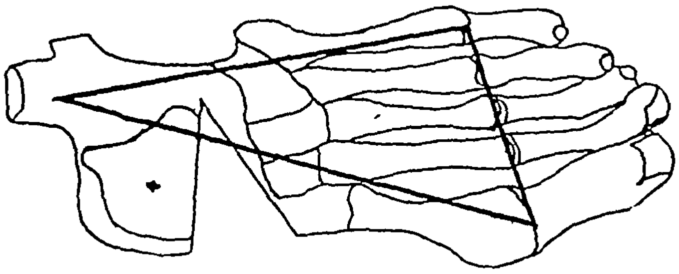
16 That the first plaster-of-Paris dressing which has been fenestrated and reinforced by small ribs of steel, should be removed at the end of the tenth or twelfth day, and a new one adjusted to make sure that adduction is of the proper degree



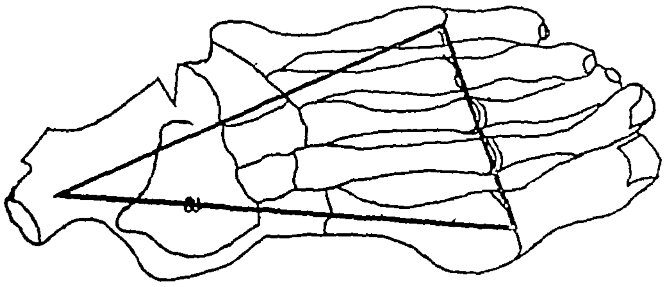
25 Shows how the astragalus is displaced to the inner side of the foot



26 Shows the situation of the astragalus point lying outside the small von Meyer's triangle



27 Shows the foot after the removal of the wedge shaped piece of bone



28 Shows the foot adducted and the astragalus point on the inside of von Meyer's triangle

17 That my own experience would lead me to operate unhesitatingly upon any flat-foot causing incapacity by pain or deformity, which could not be relieved by any mechanical devices

18 That the operation in the case just reported has resulted in all that could be asked for—making a producer out of a consumer

ON CRYPTOGENIC CYSTITIS AND PYELITIS

Read in the Section on Surgery and Anatomy, at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md May 7-10 1895

BY CARL POSNER, M D

PROFESSOR OF GENITO URINARY DISEASES UNIVERSITY OF BERLIN

The time is gone when the ever usable and available "catching cold" might serve as an explanation for suppurations and catarrhs of the mucous membranes We know now that while it may produce a degree of predisposition of the tissues, the real awakening of the affections in question must proceed from precisely definable poisons These, in the vast majority of cases, are connected with microorganisms or are produced by them

Thus "vesical catarrh from cold," which formerly was so frequently diagnosed, has disappeared from our field of vision, in like manner, purulent inflammation of the pelvis of the kidney must be attributed to pyogenic presences—bacteria or the products of their metamorphosis—impinging upon the mucous membrane Their presence is an absolute *sine qua non*, without which any disturbances such as stones, foreign bodies, stasis, etc , can not produce this definite effect

How do these pyogenic elements enter the urinary passages? As regards the bladder, it is now the habit to think exclusively of infection from without Bacteria can readily be carried into the bladder from the urethra by instruments, with ease L Lewin's and H Goldschmidt's experiments have demonstrated the process by which they can certainly occasionally ascend to the pelvis of the kidney

But this simplest of explanations does not always apply Cases are not at all rare in which cystitis appears, though they have never been catheterized, and with equal frequency pyelitis obtains without ever having been preceded by cystitis In the latter, post mortem examination often enough shows an absolutely intact condition of the bladder with severe suppuration of the kidney

The deduction is inevitable that in such cases the pus producers have immigrated from the circulation The kidneys serve as drains for the body, any presence of microorganisms causing fluid poisons, must lead to their elimination by the kidneys, and attention has often enough been attracted to the danger to which the kidneys are exposed by the presence of purulent foci in the organism Pyelitis has frequently appeared *after* abscesses and furunculoses But in the majority of instances no heed has been taken of the fact that the healthy body continually harbors immense numbers of pus producers which relatively slight causes can send into the blood and the kidneys So the intestinal bacteria, preeminently among them the bacterium coli, are entirely innocuous parasites as long as they inhabit their normal domiciles, but as soon as they migrate into other tissues, they act as most energetic pus provokers

Brunner's declaration regarding strumitis must be designated a most important general law and a very significant one for general pathology The participation of the urinary passage herein might perhaps *have been* deduced from the circumstance that of all the bacteria which have been proved *to* be provokers of cystitis and pyelitis the bacterium coli plays a most important part

Numerous experiments made by me conjointly with Dr Arthur Lewin have shown that upon completely tying off the rectum, eighteen to twenty-four hours suffice to produce an *inundation of the entire body* with bacterium coli When we injected the easily discernible bacillus prodigiosus into the rectum of animals and ligated it at once and allowed the same time to elapse, we found this readily recognizable organism in all the organs of the body and especially in the kidneys and urine

This, which refers to microorganisms, as easily applies to fluids It has long been known that drugs and poisons of most widely different kinds such as iodin, bromin, carbolic acid, corrosive sublimate, quinin, morphin, etc , are as quickly absorbed by the proctodeum as when they are applied subcutaneously I made a series of experiments with the assistance of Mr Fanadic, to elicit a closer knowledge of the manner of this absorption, by injections of solutions of coloring matters into the rectum Aside from other results, precisely the same facts obtained, viz , that twelve to fifteen minutes after an injection into the rectum *(for example of indigo-carmine)* it could be found in the kidneys and urine

No one who witnessed these experiments can escape the conviction that they point to a cause *for the development* of such renal and vesical affections as hitherto have been obscure As yet, far too little attention has been given to the dependence of these organs upon the intestine And still, observation of diseases of the urinary apparatus indicates often enough that their origin should be sought for in digestive disturbances

The future will teach in how far purulent diseases require consideration in this connection I believe, as has been elsewhere suggested, that chronic *forms* of nephritis in their narrower sense, will find their *explanation* herein

It may suffice, for the present, to invite attention to the conditions under which those many cystites and pyelites, formerly designated as "cryptogenic" may originate Then, accepting that *the bacterium* coli can provoke such diseases, the conclusion is inevitable that intestinal affections which can cause them to penetrate the circulation, merit special consideration

SOCIETY PROCEEDINGS

Cleveland Medical Society

Quarterly Meeting, June 28, 1895

The President, Dr Wirt, in the chair

Meeting called to order at 8 o'clock P M Reading *of the* minutes of last meeting Nominations for membership

The application of Dr J H Rogers, of Louisville, *Ohio*, has been approved by the Censors On *motion* of Dr Humiston, the Secretary was instructed to cast the ballot for Dr Rogers as a member of the society

PROGRAM OF THE EVENING

Dr Wirt—At this quarterly meeting we dispense *with the* report of cases and exhibition of *specimens* We now come to the program of the evening You have all no *doubt* read in Dr Wood's text-book on Therapeutics" his classic description of the experiment upon himself *in the use of* Indian hemp In this most perfect description, the Doctor relates that he lost all appreciation of the *relations of* time, space and surroundings The Doctor has the happy faculty of hypnotizing his audience, and although the effect is not identical with that of Indian hemp, yet you do lose all appreciation of time, space and surroundings

It has been my happy privilege to bring about, in a measure, the possibility of this condition for you I therefore take great pleasure in introducing to you the speaker of the evening, Dr. H C Wood, of Philadelphia

THERAPEUTICS OF HEART DISEASE

Dr Wood said —Gentlemen of the Cleveland Medical Society, if any unfortunate skipper ever took with him a load of coal to Newcastle, before he had time to unload his cargo he probably felt very much as I do to-night coming before you, for I am not at all sure that I know as much about the subject that I am to speak of as many of you do And I am very sorry that I was not prepared with a series of thorough doses of Indian hemp that I might hypnotize you into comfort and peace during the administration of the nauseous dose that I am about to give you

I want to talk to you, nevertheless, concerning a disease which, as you know, is everywhere prevalent throughout the civilized world And I propose first to carry you back to the days of my childhood, and one of my first patients (an old lady probably 85 years of age, who had many a time sat upon the lap of Washington) who was redolent with the memories of Physic and of others of the older day medical men of Philadelphia, and who taught me this great lesson that it is possible, with a very small amount of valvular integrity, to pass through a long life of labor and usefulness

Now when we come to look at the why of this thing we can go back to our early childhood days, and remember how in the frosty mornings we crawled out of bed and ran to the old pump under which we washed ourselves We had to redouble our strokes in order to keep warm And this is what the heart does, and it is what we call compensatory hypertrophy Almost all your practical skill in treating a disease of the heart must rest upon practical skill in deciding, not whether this valve is diseased, or whether that valve is diseased, but whether the increased power of the heart has or has not kept pace with the increased work required of the heart

And here I want to say a word in regard to this question of diagnosis There are some who think that when the aortic valve is diseased, you should never give heart tonics or heart stimulants, that digitalis is not indicated Not so, gentlemen The aortic valve is no different in its functions and its relations to drugs than the mitral valve It so chances that the mitral disease is commonly produced rapidly during youth, and the aortic disease comes on slowly during age, and in the one case the heart is more prone to be unable to adjust itself to the new conditions, and you get cardiac weakness

It is not a question whether this valve be diseased or whether that valve be diseased, but it is a question of the relation between the work and power

We want, then, always in every case of heart disease, from the very beginning to guard against this failure of development of compensatory hypertrophy, but before taking up the subject of drugs and their uses in failing heart, let me say a word to you in regard to the effects of failure of heart power Where does the strain come, or where is the lack apparent? When the heart fails the blood fails to be in the aorta and its tributary vessels, and when the aorta fails and its tributaries are empty the veins are full, and consequently you may take for a sign of failing heart that there is over-venous repletion of the skin, congestion of the lungs and liver and edema of the extremities

Now I want to call attention to this fact, that it is the liver among all organs, next to the lung at least, that feels this excess of blood in the venous system Engorgement of the portal circulation is present almost always in every case of heart disease It is largely for this reason that mercurials are of the value that they are in heart disease And if I have had any special success in the treatment of this class of cases, it is because I have recognized the value of mercurials Mercurial purges and corrosive sublimate given in long-continued small doses are of the greatest importance The fiftieth of a grain or the sixtieth or even the one hundredth of a grain of corrosive sublimate, given with the tincture of the chlorid of iron will sometimes effect almost a revolution, aiding your true heart tonics in the most remarkable manner, aiding, so to speak in the digestion and absorption of the medicine

I want here also to force upon your attention the necessity of cardiac rest There has grown up a wide school of therapeutists in Germany who teach that we are to cure heart disease by cardiac gymnastics, climbing mountains, etc Gentlemen, the heart is an organ that never rests under any circumstances, and do you believe it is common-sense teaching that you can take an organ that has had no rest and is exhausted, and build it up by piling on to the load which nature has put upon it? Not so Did you ever notice the difference between what we call a fat American or Englishman and a fat German of the better class The American or Englishman could walk eighteen hours through the snow, climbing mountains His paunch might be larger than necessary for anybody to carry, but his arms and legs are iron But take the fat German, he is usually all fat and beer In the German mountain cures it is not the extra work put upon the heart that cures, but it is the extra work put upon the muscles of the body that cures Such cases are not instances of genuine failing heart

Another set of cases are cured by the mountain treatment These are the cases with a heart working irregularly because the blood is loaded with uric acid derivatives or uric acid-like compounds

But you take a spare American with bad heart and you put him up the mountains, and you ought to put the lid on the coffin so he could carry it up and bury himself

Leaving these means, which seems to me of great practical importance, I come to ask your attention to the drugs we have to use in cases of failing heart I have studied adonidin cactus, convallaria and other of the newer remedies, and I do not think they have real value I have never seen, myself, any good result obtained from any cardiac drug whatever that could not be obtained from nitro-glycerin, strophanthus and digitalis, and I never had any satisfaction whatever in the treatment of real downright heart trouble with any other cardiac drugs than these three

First nitroglycerin Nitroglycerin lays itself aside from the two other cardiacs or cardiac drugs, in the fact that it dilates the arterioles, and lowers arterial pressure More than that, nitroglycerin probably has a powerful momentary stimulant influence on the heart muscle, but if one passes over in the slightest degree the dose, the stimulant action passes immediately into one of immense depression, kill the animal with nitroglycerin and its heart is relaxed as a wet paper bag, kill the animal with strophanthus or digitalis and its heart is spasmodically contracted

Then, again, remember that nitroglycerin, like prussic acid, acts only for a few minutes The profession has been giving prussic acid for years three or four times a day Now, it is a well-known fact that if a man takes a fatal dose of the acid and survives thirty minutes he almost invariably gets well All symptoms are usually gone in twenty minutes A fatal dose may show no influence after twenty minutes How much influence will there be in two hours, from a dose that at no time has caused any demonstrable effect? Now, it is very nearly so with nitroglycerin, and therefore if you are going to use nitroglycerin at all, use it small doses and at very short intervals It is only valuable as a momentary pick-me-up, to the heart It is only useful in the crisis of the attack, and is especially efficient if the attack takes the form of angina pectoris How it acts I do not know It is very possible it may be by relaxing spasm, rather than by stimulating the heart

And now let me call your attention to strophanthus Strophanthus is a drug which is used in the chase I believe it is true that every drug used in the chase of animals by savage peoples is one that acts either upon the nerve or muscle, the reason being that the man who chases an animal wants to get him, and wants to use something that will stop him from running away Strophanthus is a muscle poison It only acts upon the heart as it acts upon the other muscles, but it so happens that in man the heart muscle is more susceptible to its influence than are the voluntary muscles, and so in human medicine we are able to get a stimulant effect on the heart before we get it on the other muscles It is a drug, therefore, that acts directly as a stimulant to the heart muscle But there is no reason to think that, like digitalis, it acts further as a tonic than as a stimulant Then, again, the muscle of the arteries is acted upon by strophanthus and so it contracts the arteries It increases arterial pressure, it empties the veins and fills the arteries It differs, further, in its action from digitalis in being more distinctly diuretic, it is much more prompt than digitalis, acting at once, it is much less permanent than digitalis

Let us now study digitalis, which, always in proper doses elevates the arterial pressure How? It does it in the first place by contracting the arterioles It narrows the blood paths, it lessens the amount of blood space to be filled It does this in a two-fold way by stimulating the vasomotor center in the medulla, by acting on the arterioles themselves Take a terrapin, cut out its nervous system, leave its heart intact, or cut out its heart, then put your fluid under pressure into the arterial system and have it come out from the vena cava Add a little digitalis and it almost arrests the flow It contracts the capillaries directly But it acts upon the heart more powerfully Every one knows the full strong beat you get from the drug Especially do not forget that it stimulates the pneumogastric nerves as well as the heart muscle It lengthens the interval between the beats When that beat comes it is a great mighty throb of blood But digitalis is more than a stimulant to the heart You take a heart which is beating one hundred and ten to one hundred and twenty times a minute The veins are everywhere full, the aorta is empty The diastole has not been long enough for the heart to expand and receive the blood The heart is continually irritated by impulses coming up from every part of the body crying, Give us more blood You give that heart, digitalis You quiet it, you take off its nervousness, you get the long diastole, you get the powerful systole, so there comes a great wave of blood through the arteries In the failing heart the coronary artery gets little or no blood At the very time when the heart is being overworked and overworried it is starving But when the great wave of digitalis action comes, it swells out the aorta, it fills the coronary artery, it goes into every part of the heart, it brings sustenance and food The old effete material that has been clogging the heart walls is also squeezed out by the powerful contraction of the muscle Thus digitalis acts as a heart tonic, but it does more than this

Gaskell has proved that there are two functions or stages in the heart life What is true of the heart life is true, I believe, of every portion of the human body A period of functional activity and structural down tear, alternating with a period of functional rest and structural upbuilding During diastole of the heart there is no functional activity, relaxation During systole there is functional activity During systole this functional activity is accompanied by destruction of tissue During the period of diastole, or of functional rest, every force in the heart is given to repairing the ravages of function, and there is restoration and upbuilding

Now, it is the pneumogastric nerve that occasions the inhibition or stopping of functional activity in order that the structure of the heart, which has been worn, may be up-built My own belief is that every portion of the human body has behind it this principle The spinal cord has its inhibitory centers Every nerve cell has above it a higher nerve cell that inhibits it However this may be, during diastole the pneumogastric grasps the heart firmly and says to it, Let the workmen build up the ravages in the walls

Digitalis has the power of stimulating to a point of intense activity the pneumogastric nerve Expose a frog's heart, give it digitalis, and you will see the strange fight for mastery between the irritated pneumogastric nerve, and the irritated heart muscle Sometimes the digitalis arrests the frog's heart in diastole It never does this after section of the pneumogastric nerve It is when the pneumogastric nerve gets victory over systole, that there is arrest in dilatation Now, don't you see how digitalis acts in failing heart? Not simply as a stimulant but also as a tonic It brings food to the heart at the time of its starvation and overwork, it squeezes out of the heart muscle the effete matters which have been lying there, especially does it stimulate the pneumogastric nerve, the trophic nerve of the heart, enabling it not only to quiet the heart into long diastoles, but to hasten during these periods the up-building of the heart structure

Every now and then in our hospitals we see a case of heart disease in a poor man who has had no rest and no medical treatment, the heart seems hopelessly feeble, but a short course of digitalis brings not only immediate relief but seems to lift the whole man up to a higher plane It is because the digitalis has really helped the trophic nerve to use the food which has been given to the heart by the use of digitalis to the restoration of the structure which was almost destroyed

Before applying these considerations to individual cases, let me say a word or two about the preparations of digitalis It does not make any difference which preparation, provided it has been made from a good drug I speak now of the officinal preparations of digitalis Digitalin is always a doubtful theme Of two specimens one will be soluble, one insoluble, one is called the French, the other German Digitalin is not of the nature of the active principle It is a mere extract of digitalis more or less purified There is a wide spread belief that the infusion of digitalis is better than the tincture Not so, gentlemen The reason of the belief is that proportionate doses are not used Commonly, digitalis tincture is given in 5 to 10 drop doses, the infusion from a teaspoonful to a dessertspoonful, which is equivalent to about 20 to 40 drops of the tincture Results are obtained from the infusion because it is given in larger doses

Sometimes you will find a stomach that the infusion will agree with better than the tincture Sometimes one that the tincture agrees with better than the infusion Practically, there is no difference Again, the tincture of digitalis lends itself fairly well to hypodermatic medication, infusion you can not use

I do not propose to occupy your attention at all with discussing the ordinary use of digitalis in heart disease Only to call your attention to certain points First let me say a word in regard to its employment in acute endocarditis, acute heart disease Early in the case, digitalis is very rarely indicated It is more apt to do harm than good The heart is already in a state of irritation There are some cases of endocarditis—septic or malignant endocarditis—in which it does not make much difference what you give But in ordinary rheumatic endocarditis, digitalis does harm The heart is not weak but over-irritated Usually tincture of aconite and similar drugs are what you want to try But when the storm has gone by, the only salvation for the stricken child is the up building of that heart into a great powerful organ that shall enable it to overcome the leak that has been left in the valve There is no power to repair that valve There is no rag that we can push or stick into that broken space There must be increase of power, and so under these circumstances, so soon as the acute disease has passed by, it is absolutely important to begin the use of digitalis in small doses continually, given with great watchfulness Recollect here, as in other cases, that when you give digitalis you give a drug which has a persistent influence The moment you get the slightest effect that moment you stop the drug, for you know that effect will last hours, perchance days

Passing by the ordinary use of digitalis, let me call your attention to its administration in large doses And here I beg of you not to misunderstand me, I do not mean to say that the doses of digitalis I am going to speak of are to be used in the ordinary cases of heart disease But there come times in the life of almost every case of heart disease when the heart fails to respond at all to the moderate dose of digitalis, and when the large dose of digitalis will have a most pronounced and beneficial effect upon it

A case happened to me two or three months ago I was sent for by Dr S to see a case in consultation The man, 76 years of age, had one pleura two-thirds full of water His pulse was as far as one could count it, 160 to 170 a minute It was a mere broken confused jumble of pulse beats The man had been sick eight weeks without conscious sleep, sitting up struggling for breath

"Doctor," said the physician in charge, "I sent for you to back me up in tapping this pleura"

"I don't think that pleura ought to be tapped However, I will back you up in doing it, provided you tell the wife of the man that he is liable to die during the operation" This was done and the wife said, "Then he had better die without operative procedure"

'Now," I said, "let me try digitalis Give that man 40 drops of digitalis now (6 o'clock), give him 40 drops at 8 o'clock, 40 at 10 o'clock, and then hold off"

I went there the next morning The old man had slept soundly the whole night Had begun to urinate freely (had had nearly complete suppression), and his pulse was down below 100, perfectly regular The result was that the man came down to see me in my office not many weeks afterward, and has been going about apparently in good health ever since, of course with a diseased heart

There are cases in which you have to keep these doses of digitalis up There is a certain large graveyard in the suburbs of our city Years ago when I had worked out these thoughts to my satisfaction, I was sent for by an old German doctor, to take charge of a patient whose window overlooked this graveyard, while he went on his vacation The lady was sitting up in bed or on a chair in perpetual horrible orthopnea This old German was a very plain spoken man I asked if I might try the use of very large amounts of digitalis The doctor explained my wish to the patient, saying "All right, Sarah, what the devil is the use of your sitting there for weeks? This young doctor says he will either put you in the graveyard or get you down stairs You had better be in the graveyard than as you are, so you had better let him try"

She said "Very well I would a good deal rather be in the graveyard"

I gave her about 2 teaspoonfuls of tincture of digitalis a day She was down stairs in two or three weeks

Not long after that I had another case A banker somewhere from the West He had been taken acutely ill, or rather chronic disease blossomed out in full while he was attending to some business in the East He had been under homeopathic care for three or four weeks in perpetual orthopnea I put him on enormous doses of digitalis, and the result was that in one or two weeks he was able to go home

Now, gentlemen I mention these cases to you, not simply as examples of the results that can be obtained by large doses of digitalis, but to point out to you a further lesson

The ending of the first old gentleman has not come yet But it so happened one day in the course of some months after, the woman whom I put upon the digitalis had been going about attending to her household duties and she went to market Returning with a light basket in her hand she fell dead over her own lintel And the banker from the West went back to his office and gathered together the gold, but it so happened one day that as he was reaching forward to put his clutch upon the yellow coin he fell dead across his counter

Some would say it was the digitalis killed them But such is not the truth It is not digitalis that arrests that heart It is the power of digitalis to quiet the nervous condition of the heart, to feed up the heart as far as may be, to keep it going as long as it can, until at last there comes a time when there is not one grain of power left in the heart When the power had all gone out of the banker's heart it ceased That is the effect of digitalis When you venture to give these large doses of digitalis in the treatment of cases of heart failure, tell the patient, or at least the friends of the patient, that this thing will come Remember, the patient will live longer than if left to himself It is better to live months of comfort, and perhaps a year or two, and then drop dead in the harness, than to struggle in agony for a shorter period

A few words in regard to the so-called cumulative action of digitalis Digitalis may be given through a length of time and suddenly there comes an explosion of its action I remember a case of pleurisy I had I was using digitalis to stimulate the kidneys and get out the fluid I went there on on Sunday, the pulse, which had shown no effect of digitalis, had fallen from 106 to 80 I stopped the digitalis Monday the pulse was 70, Tuesday the pulse was 60, Wednesday the pulse was 40, Thursday the pulse was lower still, and I began to wonder what the pulse would be on Saturday But when the pulse got down somewhere between 30 and 40 there it stopped, stayed so three or four days, and then came up

I have never yet seen but one case hurt by the use of digitalis, and that was a case of mistaken diagnosis A lady had been under the care of two or three of the best doctors in Philadelphia, was supposed to be dying I was sent for and she was placed under my care, as her husband did not believe in consultations She got worse I kept on with the digitalis until it suddenly occurred to me, This is a case of digitalis poisoning I stopped the digitalis and she began at once to come up I never told my secret and she thinks I am a great doctor There was no true heart failure, only neurasthenia, from gastric catarrh

This cumulative influence comes on at certain times first place, when the drug fails to act upon the kidneys, second place, when it is already in the body You have a case of dropsy, you tap, reduce the pressure Instantly the blood vessels take up the serum, that serum is loaded with digitalis Then comes digitalis poisoning It is not the drug that is in the body, but the drug that is in the blood that affects the heart

A practical induction is When you expect to tap a man suffering from heart disease or from any form of dropsy in which you have been giving digitalis, cease your digitalis for a length of time before you tap him

Years ago I noted one class of seemingly incomprehensible cases Cases of mitral valve insufficiency, in which the heart seemed to be in the last stage of weakness, cases where I said to myself, This man will be picked right up by digitalis, but when I gave the digitalis there came increased heart dullness, and an anginous horror that instantly demanded the withdrawal of the drug I was sure that I was right in my diagnosis that the heart was weak and failing I was sure that I was right in my physiology that digitalis was a heart tonic and stimulant But when I put the two things together they did not work The cases always went from bad to worse At length I worked out the problem The cases were, all of them, cases of mitral insufficiency, and they were really cases of exceedingly weakened auricle, an auricle that was toned down and thinned out until it was little more than the thickness of paper Now, under the influence of digitalis there came back a reflex wave through the mitral valve and that met the blood pouring in from the pulmonary veins The thin, paper-like auricle could not stand the double pressure It could not stand the strain of the blood pouring in and the blood pushing back through the insufficient mitral valve by strengthened systole Whenever this condition exists nothing can be done It is the shadow of death, and death very near at hand

Digitalis has been much used in treatment of aneurysm Gentlemen, it is death to aneurysm The reason surgeons have not killed more cases of aneurysm is because they do not use digitalis in large enough doses to have any effect Digitalis is the most dangerous drug known in aneurysm You give a certain amount of strychnin, or a certain amount of atropin and get, let us suppose, 20 per cent of increase of arterial pressure, but the pulse wave is small Digitalis puts up the arterial pressure 20 per cent but it does more than this It makes a long diastole It makes a great wave of blood, not a little tiny thread, but a great mass of blood rushing with full force down the arteries, coming into the chamber enlarged by atheromatous degeneration, stretching and tearing everything before it It is the immense distension due to the large blood wave, under the influence of digitalis, which makes the drug especially dangerous This is not merely theory Some years ago a man was picked up in the street and brought into the hospital He had a pulse you could scarcely feel, temperature 4 or 5 degrees below normal I ordered digitalis to be freely given At my visit the next day the man was sitting up enjoying himself, talking and laughing I put my hand on his pulse and I got the tremendous big strokes of digitalis As I was directing that the digitalis should be stopped, the man sprang with a great cry up into the air, there came a crimson flood from the mouth and nose, and the man dropped back dead That man had an aortic aneurysm, we had ruptured it with our digitalis At the autopsy the aneurysm was found torn right across And, therefore, gentlemen, when you have an aneurysm to deal with, don't use digitalis

Let me speak of the contrast between digitalis and veratrum viride in the treatment of pneumonia You have a case of pneumonia in the first stage You give veratrum and you lower the heart action More than that, you open out every blood vessel in the body Here is the blood in that lung in excess You can put the whole of the blood of the man in the abdominal vessels You take away the blood from the lungs, and put the whole body upon one plane of dilated arterioles, so to speak That is what veratrum viride does in the beginning of pneumonia

If you have a lung in a man in which the general system is adynamic you can get at the same result in a different way You have general relaxation Now you give ergot freely which contracts the blood vessels Bring about the same result by contracting the blood vessels in the lung and the whole body

Digitalis comes into use in pneumonia in an entirely different stage How does that man die in advanced pneumonia? Very often from paralysis, exhaustion or arrest of power of the right heart What is the reason? Because the right heart, heated almost to death by the fever, has to force blood through paths narrowed by the pressure of the exudation upon them You give digitalis, it stimulates that right heart It does not cure the pneumonia, but it keeps the right heart up to its work, and by and by the pneumonia subsides

In answer to a query, Dr Wood further said in regard to this question your President has put to me about the use of alcohol in etherization Some years ago there was reported a case wherein a woman had cardiac failure from etherization, and brandy was given her Six or eight hours after the etherization she died of heart failure Is not this wonderful? This woman had a pint and a half of brandy, that, not the ether, was the cause of death

What is the difference between ether and alcohol? Only a little water, physiologically there is no difference Then, again, you might as well give ether as alcohol to a failing heart This is not mere theory Test it on the animal As you give alcohol, less ether is required

By no dose of alcohol can you bring up the arterial pressure of the animal poisoned by ether You might as well give hypodermic injections of ether in the failing heart of etherization Here I see some of you smile, there are surgeons fatuous enough to do even this thing Gentlemen, does it make any difference to the heart whether a drug which is in the blood has been picked up in the left leg or the right leg, in the lung or in the buttock? Is the heart a sentient being that it can tell where the blood got the ether? Why not crowd the ether on the sponge and give to the man by the mouth *Sometimes these hypodermic* jections do *seem* to arouse the patient It is because they e a local irritant and reflexly excite the heart, the same as olding ammonia to the nostrils But just so far as the her is absorbed just so far it aids in overcoming the heart The only drugs which, *in these failing* insufficient hearts, have found to be of value are strychnin, cocain and digilis Digitalis should be given hypodermically More than ns, I have found in the lower animals that the lowered ressure under chloroform or ether is brought up wholly by igitalis injected into the veins More than this, I have ound that *digitalis given before* the anesthetic has a remarkble power in steadying the heart Whenever you have any eason in any case to especially fear cardiac depression from be use of the anesthetic, precede the anesthetic by your igitalis And precede it long enough so that the heart shall e under the influence of that digitalis when the anesthetic s *given*

And with digitalis always use strychnin in the accidents f anesthesia It affects the respiratory function probably nore than it does the cardiac function, but it certainly has ome power in backing up the action of digitalis on the eart.

And then there is another drug which is of equal value with strychnin, and which can be associated with strychnin, and that is cocain It acts upon the respiration and circulation about as strychnin In the chloralized dog you can raise the respiration by as large doses of strychnin as can be given without producing convulsion, and then by giving cocain get a further increase of the respiration You will find in cases of adynamic, advanced pneumonias, where you want to sustain the respiration as well as the circulation that the combination of strychnin and cocain is of especial value

British Orthopedic Society

First Provincial Meeting of this Society held at Liverpool, May 24, 1895

After lunching together at the Adelphi Hotel, the members visited the new Royal Infirmary, the Children's Infirmary, and the Southern Hospital, at the invitation of the several staffs They were then entertained at dinner by Mr Robert Jones, after which they adjourned to the Medical Institution where the ordinary meeting was held

A large number of living cases were exhibited, representing torticollis, talipes treated by tarsectomy, wrenching, tenotomy etc, also numerous other cases of knee, hip, and joint diseases, several casts and stereoscopic slides were *on* view, the latter shown by Messrs Robert Jones and Thelwall Thomas, being most instructive as showing the advantage of stereoscopic photography in the demonstration of orthopedic measures

Mr Robert Jones was elected to the chair Several candidates were balloted for and elected

Mr. Tubby, of London, read notes of a case of talipes equino varus, drawing attention to the rotation inward of the lower end of the tibia and fibula which complicated these cases He had performed osteotomy of the lower end of the tibia, the limb being afterward put up in plaster with a satisfactory result

Mr Robert Jones agreed with Mr Tubby that the rotation was due to an alteration in the shape of the tibia and fibula and he had for years successfully treated it by *osteoclasm* above the ankle joint and in this way, by inversion at once corrected the deformity A comparison of the position of the patella *with the* great toe was evidence that the deformity was below the knee

Mr Murray of Liverpool considered that the fault lay not in the tibia *but above the knee*

Mr Luke Freer of Birmingham, held that the inversion was general, the knee and *hip being equally* involved and secondary in origin to the foot *inversion*, *he had always* met the difficulty by passive manipulations and occasionally instrumental aid, by which the knee and hip were rotated outward, as it were, simultaneously with the daily after-treatment of the talipes itself

Mr Freer showed photographs of a case of extreme rachitic genua valga, the girl had worn instruments for four years with little benefit and when 8 years of age, he had performed a double MacEwen with the best results, continuing retentive apparatus, however, for two years *after, to* prevent relapse A week ago she had turned up again after a lapse of eight years, with most pronounced genua vara, evidently due to rachitis adolescentium He emphasized the necessity of mechanical control after osteotomy and the fallacy of very early operation

Mr Murray thought the case would be best treated by another osteotomy

DISCUSSION ON THE TREATMENT OF INTRACTABLE TALIPES *EQUINO-VARUS*

Mr Robert Jones opened the discussion He maintained that it was always an avoidable condition, and that the relapses so often alluded to were generally due to carelessness on the part of the patient's friends, and sometimes on the part of the practitioner The relapses frequently occurred because the surgeon did not recognize their causes, these were *a*, insufficient correction of deformity, *b*, superincumbent body weight on outer side of tarsus, c, slack and lengthened state of muscles opposed to the deformity Frequently surgeons were content to merely twist the foot until they were able to get it comfortably into the straight position, and yet so soon as the little patient put his limb to the ground, one could see that the flexor muscles of the foot had not recovered their powers and the result was that the whole body weight fell on the outer side of the tarsus The foot is not cured until the patient can voluntarily place it in the position of valgus, and he should not be allowed to walk until the foot is so far recovered that each step he takes tends to improve the position of the foot, in other words, until the act of walking becomes a beneficial factor in the correction of the deformity It was impossible to lay too much stress upon the influence in the maintenance of deformity, or its recurrence, exercised by the overstretched muscles on the convex side of the deformity In proof of this, Mr Jones instanced his treatment in infantile paralysis, where contraction had existed for some years, and their influence upon the lengthened opponent muscles After discussing the anatomy of inveterate club foot, Mr Jones traversed Phelps' statement that the bony deformity in intractable cases did not by any means keep pace with the deformity of soft structures He maintained that it was impossible for the foot of a growing child to remain twisted without corresponding bone changes and he drew attention to the osseous deformity in lateral curvature in knock-knee In discussing the methods of treatment, including that of manual correction, subcutaneous division of deep structures and tendons, forcible wrenching, tarsoclasis, open incision linear osteotomy removal of astragalus or cuboid tarsectomy and Pirogoff's operation, he *found it* difficult to criticize all the methods, and he wished to insist upon a very often forgotten fact that the goal might be reached *successfully* by different routes Some surgeons, like Wolff, *of Berlin were able to show* extremely satisfactory results where the hand alone was used, and this in extremely intractable cases Phelps had described *uncommonly* good results by means of his open incision and Mr Jones had personally seen some very useful feet after Lund's excision of the astragalus That evening Mr Murray had shown what could be done in suitable cases, by well performed tarsectomy After describing Phelps' operation, Mr Jones argued that it had more effect on the varus deformity than on the equinus, and the cases he had seen after the operation seemed rather deficient in the power of putting the heel to the ground

Phelps' argument for open incision seemed founded on the ground that it was indiscreet to work in the dark, but at the same time it was noticeable that he had very considerably modified the length of his incision, so that it became almost essential by reason of the small incision now made to introduce out of sight the tenotome for the division of some of the deep structures Mr Jones had performed Lund's operation on six cases and wedge shaped tarsectomy thirteen times, but although his results were fairly satisfactory, he had discarded the operative treatment for that of forcible wrenching He felt the difficulty in that inevitable percentage of failure after incision of a wedge to make up the deficiency by subsequent methods, as the foot became *so* firmly ankylosed and resisting He maintained that operations *such as those* described should only be done by surgeons of experience under *strictly* antiseptic precautions, that the foot should be over-corrected at the time of operation and that the appliances should be worn for a considerable time afterward He felt certain that all cases of club-foot could be successfully treated by Thomas' wrench, and that the failures which had been reported were due to the fact that surgeons often did not learn its method of application He then described in detail the mode of twisting by means of that instrument He always divided the tendo Achilles before proceeding to further treatment, as its contraction often had to do with the varus deformity as well as that of the equinus He rarely found it necessary to divide any other tendons Occasionally several wrenchings were preferable to forcing the foot into position at once After each wrenching the foot became quite capable of being molded into any position In the after treatment he preferred the application of a cheap iron shoe to the plaster appliances now commonly in use and he described the simple device of adding an iron flapper on the outer edge of the boot in order to complete the eversion of the foot during walking The rotation inward of the leg he corrected last of all by osteoclasm This internal rotation could always be avoided if one began treatment early by twisting in their long axes the tibia and fibula outward, grasping the lower end with the right hand and the upper end with the left The cases he had shown that evening, all of them of a very extreme character, were sufficient proof of the efficacy of this method of treatment, a method which, while leaving intact, and training to a proper shape, the tarsal bones, left a pliable foot as the result There was very little pain attached to the method Treatment had only to be continued for a few months and there was absolutely no risk involved This could not be said of the cutting operations with the inevitable percentage of mortality Surgeons were too accustomed to be shown only the successful cases of tarsectomy, but in private and hospital practice he had frequently come across some of the dire disasters

Mr Tubby thought that in the normal state the action of the extensor and flexor muscles was not alternate and distinct, but that the muscles acted in concert There was a wide field for observers for investigating the condition of the equilibrium of muscles, he never found tarsectomy necessary but had seen some very bad results from it Cases were sent out too early and relapses occurred not seen by the surgeon, he considered the wrench a very satisfactory instrument in intractable cases, the ligaments in youth being elastic, he was opposed to Phelps' operation, excessive division of vessels favors gangrene of the parts The operation appeared very pretty on the table and very ugly afterward

Mr Murray said that in the treatment of congenital talipes equino-varus, all were agreed that the equinus part of the deformity should be dealt with by division of the tendo Achilles, but all were not agreed as to the treatment of the varus He stated his objections to Phelps' operation and also to wrenching The wrenching was painful and had to be often repeated, an important matter with poor patients from a distance Of the several operations practiced, he personally preferred the removal of a wedge-shaped piece from the outer side of the foot, irrespective of bones or joints, and was well satisfied with the results he had obtained He had performed the operation forty-two times in thirty-four patients The dangers from the operation were practically *nil*, and much time and expense were saved, as the patients walked well without instrumental support in less than three months

Mr Luke Freer was of opinion that the very few cases of intractable club-foot with which surgeons engaged in orthopedic practice had to deal were, as the chairman had observed, a reflection on the patient's friends or more often on the practitioner Severe relapsed cases treated by tenotomy and daily manipulative after-treatment would usually be well, with pliable feet, under three months, and he showed several photographs of cases so treated, he was in favor of the wrench rather than tarsectomy in cases where the hand was not sufficient, he agreed with the use of simple retentive apparatus easily removable for manipulation Of all the cases of tarsectomy he had seen, he could not call any one really satisfactory, the best were "stumpy"

Mr Newbolt, of Liverpool, said that osteoclasis should be done through the tibia and fibula, not through the femur

Mr Robert Jones, in reply, referred to the length of time in treatment, which was slight after the first wrenching, no relapse occurred if the child was not allowed to walk before the weight was borne on the inner side of the tarsus, instead of the outer The chief advantage of his method was safety Private patients would invariably prefer a non-cutting operation There would be very few intractable cases of club-foot if medical men would learn how to deal with them sufficiently early

The next meeting will be held during the British Medical week in London, in July

The Ohio State Medical Society

Annual Meeting held at Columbus, May 15, 16 and 17, 1895

(Continued from page 162)

First Day—Afternoon Session

Dr Edmund C Brush, of Zanesville, Ohio, read a paper on

FRACTURES OF THE SKULL

The paper was a supplementary report of nine cases The former cases, ten in number, had been treated by immediate operation, by a secondary operation and on the expectant plan The deductions pointed clearly to the propriety of immediate operation, provided any depression could be detected

In the supplementary report, the cases present many different phases of fractures of the skull and the results therefrom All of those operated upon recovered, and in each case the operation was performed without delay and without any regard to the symptoms, good or bad, present The one idea was to remove all pieces of bone that impinged upon the brain, whether the brain resented the pressure or not Due attention was given, to the physical condition, so far as it was influenced by shock The idea that "in children the toleration of the brain to pressure is such as to justify delay in elevation of the fragments unless alarming symptoms supervene," is probably true, but what is to be gained by waiting? Prompt action will probably prevent alarming symptoms and dangerous secondary complications In the operations reported, the trephine was not used With an elevator and a pair of sequestrum forceps much can be accomplished This is not said in the way of depreciation of the trephine It is an instrument of untold value The anesthetic used was the A C E mixture

There is no need of repeating text-book literature on rules and methods for operations on the skull How to prepare the patient for the operation, how to operate, and how to treat the cases after operation are familiar matters to all There is, however, a new idea being advanced or experimented with Perhaps it might be well to say that an old idea is being revived in a new form To find some hard substance to replace the bone removed has been a source of much thought in the past and it is likely that the near future will solve the problem This may be Senn's decalcified ox-bone It may be disinfected celluloid plates, or it may be the removed pieces of skull or even transplanted pieces of skull

In looking over the literature on the subject under consideration, I was forcibly struck with the following found in "Bell's Surgery," 3rd volume, edition of 1796—nearly one hundred years ago!

"In the management of fractures of the skull attended with depression, the indications are

"1 *To discover as exactly as possible the site, the course, and the full extent of the fracture*

"2 To obviate the effects of the injury done to the brain by elevating or removing all the depressed parts of the bone

"3 To endeavor to complete the cure by application of proper dressings and attention to the after-treatment"

Dr Judson Daland, of Philadelphia, Pa read the following paper

THE PATHOLOGY, DIAGNOSIS AND TREATMENT OF MALARIA

(Illustrated by lantern slides) After presenting a number of views of normal blood and of malarial blood, giving a short description of each, Dr Daland said You may ask of what practical value is all this study? This organism is always present when a patient is suffering from malaria, and therefore may justly claim the position of acting as the cause of this disease It is important because by the study of this organism one may determine if the treatment employed is successful It is perfectly manifest that so long as this organism is present the disease still exists Very constantly the question as to the diagnosis of malaria arises And the differential diagnosis between malarial and other diseases that produce the characteristic symptoms of chill fever and sweat are constantly before us The cases of gal stone associated with intermittent fever are more readily recognized as such, and not treated for months as intermittent malarial fever Tuberculosis with intermittent fever is also more quickly diagnosticated When the examinations are properly made, the absence of the parasite proves the absence of malaria, as well as its presence proves the presence of malaria Hepatic abscess or anything which produces intermittent fever, which may at times be suspected to be malarial, can be clearly separated by this important sign As soon as we can know certainly an individ ual is suffering or not from malaria, our course of action is plain

Passing from a discussion of its enormous diagnostic value let us think for a moment regarding the influence of this body upon the blood, and the impression that is created in our mind by a study of this organism while the patient is under treatment In the first place, it is important that the patient shall not receive quinin when you are experimenting with this organism This alkaloid not only changes the organism but has an absolutely destructive effect upon it It is the hope of every physician present that we may multiply these remedies very rapidly

The study of the effect of a paroxysm upon the blood mass will give us valuable indications regarding the treatment If one takes a patient suffering from intermittent fever and examines the blood, one usually discovers that the mass of corpuscles has been reduced from 100 to 60 per cent Furthermore, the hemoglobin will be found reduced to 50 or 45 per cent We therefore recognize that the blood mass is greatly reduced, first as regards the quantity of the red blood cells present, and second as regards the quantity of hemoglobin present We also note the loss of hemoglobin is more than the loss of red blood cells I think we would expect this from the knowledge of the effect of the parasite in destroying so many millions of these cells If you study the blood before and after a paroxysm, you may find the amount of loss at each paroxysm This has been done with the result that about 10 per cent of the red blood corpuscles of the body were found to be destroyed, and 10 or 11 per cent of the hemoglobin was lost at the same time In the interval between the paroxysms a considerable quantity of this loss was made up by the remarkably rapid manufacture of red blood cells and hemoglobin, so that they are kept at about an average of 50 or 60 per cent of red blood cells and hemoglobin

This being true it seems to me the first indication in treatment is the destruction of the parasite which can be best accomplished by our old friend, quinin The bisulphate is perhaps the most soluble form of quinin, and should be given in conjunction with acid, preferably when there is a certain amount of food within the stomach At certain periods of its development the parasite is less vulnerable than at others It seems to me when it is just forming, at the point corresponding to the chill, or just before the chill, if we can have circulating in the blood a sufficient quantity of quinin, we can destroy the parasite, while if we postpone this until later, the plasmodium is in the red blood cells and the quinin does not come in contact with the plasmodium Therefore it is important that the patient shall have the quinin prior to the expected chill The remedy that stands next in importance, and one that I administer at the same time, is Fowler's solution, in 3, 5, or 5 drop doses And in view of the great loss of hemoglobin, it would seem the best results can be obtained by the administration of a remedy that would tend to restore the hemoglobin readily, and the remedy which we believe exerts this influence best is the freshly prepared carbonate of iron Therefore, I would suggest that 20 or 30 grains of bisulphate of quinin be given in the twenty-four hours Of course, the indication regarding building up the general health is very apparent

DISCUSSION

DR. KINSMAN—How many of these plasmodia will you find on an ordinary slide?

DR DALAND—The number of parasites varies with the severity of the case In a well marked quotidian or tertian intermittent fever, you may find as many as we have found here Each of these represents a quarter of the field You may have two or three, or sometimes as many as five or six of the parasites in one field But in the cases of malaria you see here in the North, the rule is quite contrary They oftentimes require a search of ten, fifteen or twenty minutes to find a single plasmodium, and in other cases they increase in number So you may say the number may be as many as one to six, and again you may have to search ten or twenty minutes to find a single body Another form of malaria, which I did not mention, is the flagellated form which could not be detected by the photograph

DR FULLERTON—Is there any culture fluid in which this plasmodium may be or has been cultivated, and have any experiments in regard to the inhibitory or destructive effects of any of the malarial remedies been tried in the test tube?

DR DALAND—So far as I know, every effort that has been made to cultivate this particular form of microörganism has met with failure And furthermore, the studies made in regions where the malaria is so prevalent, have not given satisfactory results, in detecting a microorganism like this in the soil or damp places, where malaria is present Consequently, not having found it outside the body, the experiments are limited

DR TUCKERMAN—What is one of the best monographs on the technique of the subject?

DR DALAND—I think in v Jaksch's "Clinical Diagnosis"

(To be continued)

American Electro-Therapeutic Association

Fourth Annual Meeting held in New York Academy of Medicine, New York, Sept 25, 26 and 27, 1894

WILLIAM J HERDMAN, M D, President

(Continued from page 157)

REPORT OF THE COMMITTEE ON CONSTANT CURRENT GENERATORS AND CONTROLLERS

was given by DR W J HERDMAN, Chairman

You will remember that the work of this committee as it was defined at the time of its appointment two years ago, was to investigate the apparatus which was designed for the generation and control of constant currents suitable for physicians' use, whether these currents were derived from primary batteries, secondary batteries, or dynamos, and also those appliances which were constructed for the purpose of modifying and controlling such currents so as to adapt them to the various needs of therapeutic work

As was reported at the last annual meeting, the committee sought to secure a basis for such investigation by conferring with physicians who had long used electricity in therapeutics, and learn from them what sources they relied upon for their currents and in what manner they modified or controlled them, and get their opinions concerning the value of the apparatus which they were employing It was hoped that enough information would be secured in this manner to enable the committee to take a very broad view of their field of work and draw their conclusions from statistics covering this entire field It was the purpose to put to the test by laboratory methods the value of such apparatus and opinions as were derived from this correspondence and to display in the reports of such investigations a comparison which would speak for itself as to the superiority of one method over another The attempt at getting such information from physicians through correspondence was a practical failure at the time of the last report and, although the attempt has again been made during the year just ended, with what has been thought improved facilities at the disposal of the committee we must again report that we have not met with the assistance from our fellow-practitioners throughout the country that we had hoped for in this direction We, have, therefore, been compelled to use our own judgment in selection of apparatus for investigation, and in this we have been largely guided by our personal knowledge of what is in use and by information derived from the makers of apparatus as to what is having most ready sale at their hands

At the last meeting the committee reported progress with reference to many of the investigations which they had been pursuing This has been continued with much diligence throughout the year and in addition to this we will be able to present some other material A part of these investigations have been carried on at the electro-therapeutic laboratory at the University of Michigan under the direction of the chairman of the committee Dr Newman and Mr R G Brown both members of the committee have been pursuing separate investigations at their respective homes, the latter having been placed in charge of the physical investigations on secondary batteries These gentlemen have been requested by the chairman to personally present their reports Dr Campbell, the other member of the committee, has had in charge the correspondence with physicians and, although he is absent in Europe he has reported to me that his work has been diligently pursued but with indifferent results, as I have already said

PRIMARY BATTERIES

Aside from the investigations upon the durability and manner of action of the primary batteries that were reported one year ago, there have been added to the list the Vole battery of fifty cells and the chlorid of silver battery of fifty cells As has been stated heretofore the cells of these are coupled in series, each cell being exposed clearly to view, so that the condition of its contents can be seen at all times, and then they are subjected to exactly similar methods of investigation for the same period of time, the aim being to conform to the circumstances that would attend the work in the physician's office as nearly as possible The main characteristics to which we look for determining the value of these sets of cells are 1, the amount of constancy of electro motive force, 2, the slowness of polarization and rapidity of depolarization, and 3, the durability of the elements subjected to chemic action for the freeing of electric energy Time alone can determine the durability of these various forms of batteries and it is the purpose to continue these tests without renewing the elements until the energy in the cells is completely exhausted I herewith submit a table of tests[1] of these various forms of stationary battery plants that have been made during the present year It will be seen by investigating the last of these tests that many of the batteries are yet far from being exhausted, so that in all probability it will be some months before the question of durability will be settled When the entire number of cells that have been submitted to us have ceased to act, it will then be the proper time for summing up the comparative excellences in action of these forms of cells Yet it will be apparent to any one who chooses to glance over the tests, as they are here recorded, what is the capacity of any one set of cells upon the basis of the requirements for superiority that we have above mentioned A copy of the results of these tests has been sent to each manufacturer who has furnished the Association through its committee with batteries for examination, so that they have the opportunity through the comparison which is here presented for making improvements needed upon the cells which they have been placing upon the market In the judgment of your committee this is the true and just way of aiming to advance the appliances for electro therapeutic use, since it avoids making us in any offensive way to discriminate in favor of one or the other manufactured article, yet gives all manufacturers an opportunity to compare their work with that of others who are aiming to supply the same trade, and has the effect of stimulating them to their best endeavors

There are now some thirteen forms of primary batteries being subjected to these investigations in the laboratory at the University of Michigan These forms of cells represent the majority of those that are most in use among physicians Almost all of the batteries included in the thirteen sets mentioned are composed of cells too large to be employed in portable work and are suitable only for stationary plants in hospitals and in physicians' offices The varieties of primary portable batteries are few Among those most generally in use are the dry chlorid of silver cell battery manufactured by the Baltimore Company and the liquid cell of bichromate of potash solution with zinc and carbon elements, manufactured by various other companies, most notably by the McIntosh Battery & Optical Company of Chicago A sufficient number of these cells can be inclosed compactly in a small space so as to furnish a comparatively high electro-motive force for bedside work and are therefore suitable for portable batteries

CHLORID OF SILVER DRY CELL BATTERY

A fifty cell portable battery was received from this company in June, 1893, with the request that it be subjected to the customary use to determine its capacity and efficiency It was supplied with a Willms rheostat a circuit breaker, a pole changer and a switch for throwing in the number of cells needed in groups of ten The battery was put to work in my office July 10, 1893 At this time certain of the individual cells were tested with a standard voltmeter and found to register from 95 to 98 of a volt each The character of work that was done with this battery was such as it is advertised to do, electrolysis, epilation and treatments upon the body where for the most part high body resistances are introduced into the circuit At the beginning of this work the entire fifty cells registered a voltage of 48, at the end of the year, Aug 26, 1894 the following record was taken

The	first	10	cells	registered	10	volts
"	"	20	"	"	19	"
"	"	30	"	"	15	"
"	"	40	"	"	19	"
"	"	50	"	"	22	"

It will here be observed that the voltage of the entire fifty cells did not much exceed the first twenty It was found that the cells between twenty and thirty registered but 5 volts, between thirty and forty, 9 volts, between forty and fifty, 9 volts There was, then, evidently some internal resistance which, when the entire number of cells were thrown into action, succeeded in greatly lessening the voltage It was also found at this time the Willms rheostat acted very unequally, the entire resistance of the instrument being in the first eighth part of the circuit, the remaining part of the circuit giving no additional resistance These changes in the character of the direction of the battery had so far diminished its efficiency during the year that it was thought best to send it back to the makers for investigation and report The following letter was received from them, when this examination was made

"We find that the elements are not one-quarter exhausted This is not your error, however, and we will endeaver to explain why it occurred At the time we sent you this battery we were using domestic glass for our cell cases and, although we used every possible precaution, such glass will crack at times when least expected to do so, which it did in the case of several contained in your battery The cracking of the glass does not affect the elements contained in them but permits the small amount of moisture to gradually evaporate and increases the diameter of the cells which serves to develop the slightest cracking We are extremely sorry this should have occurred in your battery (for my part I am glad it did) for although it is liable to occur to any instrument containing the same character of glass as this, still we have sent out dozens of them without any trouble However, being conscious that it is likely to happen at any time, we made provision to avoid it in the future, quite a time ago, and now all our cases are of Bohemian glass and are very fine We propose to take no chances in your case and therefore place new cells in the machine We have also made very important improvements in the current controller of Willms rheostat and shall also give you another one of these also"

I may say, when this battery was returned to me there came with it one of the imperfect cells that had been referred to and I found the condition to be as was stated in this letter It is to be hoped that this company has succeeded in overcoming this serious fault by the means which they have indicated The new rheostat also I find to be uniform in its resistance and a much better instrument than the one which it replaced The voltage of this battery since it has been returned is 47, a little less than 1 volt per cell and this voltage is divided up equally in the various groups of cells which compose the battery The cells which are used with the chlorid of silver battery are the smallest in size employed in any portable battery and the manner of arrangement is such that it makes this a very convenient instrument If the cells can be so perfected that they will be entirely reliable and the controller can be made equally reliable, this will be made a very perfect apparatus for a portable battery I have found it a suitable form to employ in cases of diagnosis where I am in need of a constant current, as it can be carried to the bedside without inconvenience or impairment of its action in the transit

Another line of investigation which the committee has carried on is that of testing the action of the various forms of rheostat and controller

RHEOSTATS AND CONTROLLERS OF THE CONTINUOUS CURRENTS

Water Rheostats—We have found a variety of this form of rheostat in many batteries used by physicians The character of resistance which it offers to the current is much the same in all, but the amount of resistance is determined by the purity of the water employed and the amount of it which intervenes in the course of the circuit The methods which are employed by the different instrument makers for varying the amount of intervening liquid differ considerably and upon this mechanism and the ease with which it is managed depends the efficiency of the instrument The simpler this mechanism is as to freedom and equability of movement, the better the instrument It should be so arranged that the current is modified gradually Certain of these water rheostats are constructed so that the interval of liquid is maintained by a moving rod held in position by a set-screw At times the slightest movement of this set screw is sufficient to drop the rod instantaneously and so suddenly throw out all resistance This necessarily gives a shock to the patient in the circuit and is both disagreeable and hurtful Others of them are so constructed as to permit of a very slow and gradual change in the amount of intervening fluid and require too much time for making even very slight changes in variation of resistance The main objections, however, to this form of rheostat are that the current passing through the fluid causes decomposition of it by electrolytic action and so produces corrosion of all metals with which it is brought in contact, if these are corrodible, if they are non corrodible they are necessarily so expensive that the instrument can not be sold for a price that will enable many to purchase it

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[1] *This table is entirely too voluminous to be printed in the* JOURNAL, *but a copy can be obtained by applying to the Electro Therapeutic Laboratory of the University of Michigan*

Another, and to my mind, a main objection, is that it is a very indefinite character of resistance, there being no means of measuring the amount of resistance which is thrown into circuit and so leaves it open to the fault of inexactness in measurement, a feature in our work that we are endeavoring to overcome

Graphite Rheostat —Of this form of resistance we have had a number to investigate, differing very much in construction, and while they are free from some of the objections that we have just mentioned as attaching to the water rheostats, they have certain deficiencies of their own, depending partly on the nature of the material and the manner of their construction Yet on the whole we have found this class of rheostats to be superior to the liquid form But they are likewise indefinite as to the amount of resistance which they furnish in the circuit and by reason of the wear which friction produces they are inconstant, even when the same extent of graphite surface is thrown in

Among the graphite rheostats that have been subjected to test by the committee I mention the Willms the Vetter, the Massey and the Gebhart, Reiniger and Schall The absence of liquid and consequently of electrolytic action renders this class of rheostat more universally serviceable than any form of liquid rheostat we have had under examination

Wire Rheostats —These are, for the most part, when manufactured to be used in electro therapeutic practice, made of German silver wire which alone furnishes sufficiently high resistance for the purpose The character of the workmanship required to make reliable rheostats of this material and the amount of wire necessary, render them very expensive and few of our American instrument makers have attempted to furnish wire rheostats as a part of the outfit of primary batteries, except occasionally they have been introduced into very expensive cabinets A well constructed wire rheostat is an instrument of much greater exactness and constancy than any of the forms we have hitherto considered By care in their construction the amount of resistance can be determined within the minutest fraction of an ohm and the limit of resistance is only to be determined by the expense of construction and the space in which it is desired to place it Wire rheostats therefore are altogether the best method of introducing a controller into the circuit of a constant current Certain of the foreign manufacturers, as Gaiffe and Gebhart Reiniger and Schall, have made such rheostats the controlling elements in many of their better forms of constant current batteries and thereby making them, so far as this feature is concerned, very accurate and reliable instruments

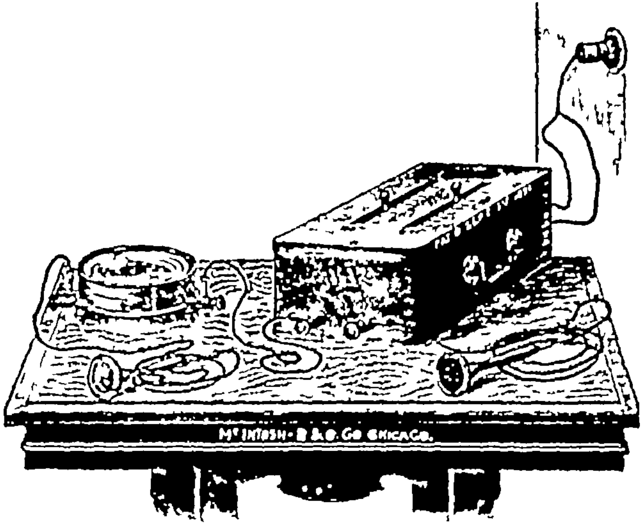
CONTROLLERS FOR DYNAMO CURRENTS

Your committee has, since our last meeting, given considerable attention to that class of instruments designed to employ the constant currents generated by dynamos used for electric lighting and other commercial purposes which are oftentimes available for physicians' use By employing a constant current so furnished all the perplexities and annoyances which attend the maintenance of a primary battery plant are done away with and such currents and controllers of them are coming more and more into demand

Among the instruments which have been put upon the market for controlling dynamo currents for general therapeutic work the committee has been furnished for investigation the McIntosh Current Controller, the Gish Ideal Rheostat and the Vetter Current Adapter All of these instruments act upon the shunt principle, allowing a main current to pass through a continuous wire or other material offering a certain amount of resistance and then possessing an additional mechanism by which more or less of this main current is diverted at the will of the operator into the patient's circuit These devices have the effect of diminishing the original voltage at the same time that they diminish the current, an effect which to some who are engaged in electrotherapeutic work would appear to be of considerable value We have made somewhat prolonged investigation of the first two of these appliances mentioned and herewith submit the reports pertaining to them

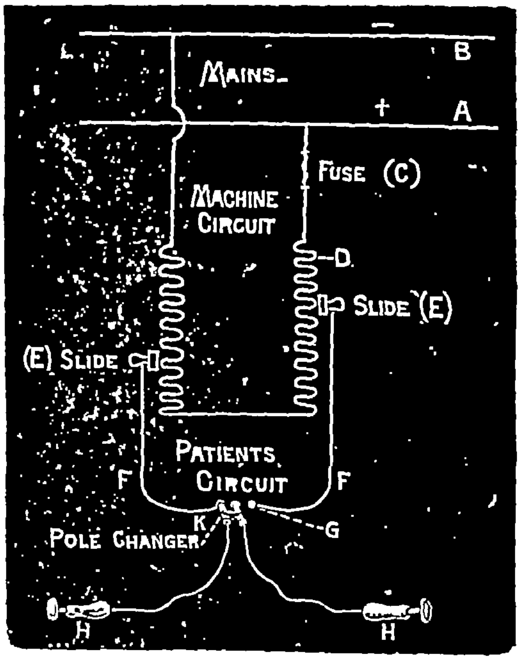
THE MCINTOSH CURRENT CONTROLLER

This controller is designed for portability, though not at the expense of durability It is contained in a neat hardwood case 6½ inches x 9 inches x 4 inches, having the index and regulating handles on top, the binding posts for the machine terminals on one end and the reverser and binding posts for patient's circuit on the other end A handle is fastened to the side for convenience in carrying A delicate fuse is constantly in the machine circuit, so placed that all the current traverses the fuse before it reaches the point where the patient's circuit joins the machine circuit This avoids all possibility of a dangerous increase in the current strength in the patient's circuit



McIntosh Current Controller

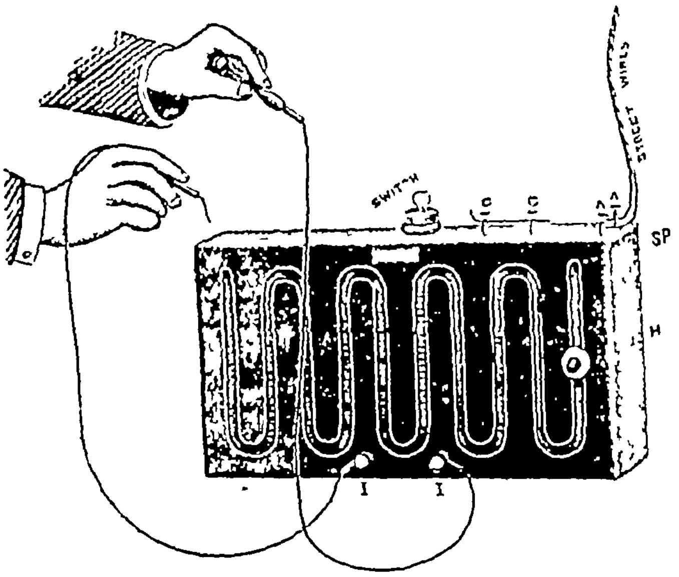
The fuse is so adjusted that a current of one-half an ampere in the machine circuit would instantly melt it and thus disconnect the instrument entirely from the dynamo Under no circumstances can a harmful current pass through the patient The reverser is in the patient's circuit to avoid the sparking and burning of contacts that would result from reversing the heavier current carried by the machine circuit The controller works on the well known 'shunt" principle The machine circuit consists of a succession of coils, 19 in all, joined in series and having a united resistance of 209 ohms, about the resistance of an ordinary 100 volt lamp The patient's circuit is so arranged with sliding contacts that the patient may be placed in a shunt to one or more coils The coils vary in size, but are so proportioned as to modify the current in tenths and hundredths The sliding contacts are arranged in two rows, each row having its own index One row is connected with the larger coils, and consequently each coil in this row divides the E M F in the machine circuit by ten The remaining coils are connected with the other row of contacts, and each coil divides the E M F by one hundred, The two rows may be used singly or together The contact consists of a heavy brass roller sliding on a flat



brass plate and held tightly in contact with the plate by a flat brass spring The accompanying diagram illustrates the essential parts of the instrument, and will enable the reader to clearly understand its construction and action The laboratory test was made with an E M F of 90 volts in the patient's circuit when shunt to the entire number of coils A resistance of 1,560 ohms was placed in the patient's circuit, in which was included also a Weston milliampère meter A Weston volt meter was connected shunt to the patient's terminals The following table will show the E M F and current in patient's circuit, with the sliding contact at various points on the index

Left Slide			Right Slide		
Index	E M F	Current	Index	E M F	Current
1	8 Volts	7 Mil'amps	1	1 1 Volts	9 Mil'amps
2	10 "	15 "	2	2 3 "	2 "
3	20 2 "	25 "	3	3 51 "	3 "
4	40 "	2 "	4	4 21 "	3 61 "
5	50 "	10 "	5	6 85 "	4 5 "
6	50 2 "	10 "	6	6 97 "	5 81 "
7	60 3 "	58 "	7	8 21 "	6 0 "
8	80 1 "	67 "	8	9 2 "	7 8 "
9	90 "	75 "	9	10 63 "	8 93 "
			10	11 89 "	10 "

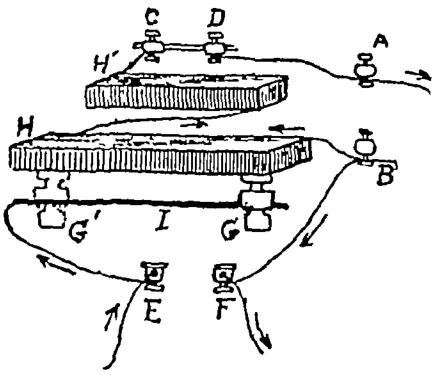
It will be seen from these tables that the voltage and current increase and diminish in corresponding ratio, and this holds true, no matter what the source of E M F, whether from a constant current dynamo an alternating dynamo, or a series of primary batteries The laboratory contains a number of plants of various forms of primary batteries each made up of fifty cells The voltage furnished by these varies from 60 to 78, according to the make of battery of which they are composed This current controller seems to work quite as well on the current furnished from any one of these batteries as upon that generated by the Edison or other constant current dynamo, modifying the E M F and the currents by tenths and hundredths proportionate to the initial voltage, whatever that may be The dynamo generating the current upon which the foregoing tests were made is used for distributing power to motors throughout the city The current enters the laboratory with an E M F of five hundred, but this potential is reduced by lamp resistance to the desired amount It appears, therefore, from these observations that we have in this controller a simple and efficient mechanical device for adapting both constant and alternating currents, or currents derived from primary batteries, to the physician's use



THE GISH IDEAL RHEOSTAT

The instrument here represented is another apparatus designed to adapt the commercial dynamo currents to the physician's and dentist's needs It is constructed on the shunt plan and consists of a main circuit and a shunt circuit, the latter of which is the patient's circuit

The main circuit within the instrument is made up of a continuous German silver wire, No 22, wound on a succession of rectangular wooden blocks covered with asbestos paper Ten of these wire-wound blocks are exposed through a sinuous slit in the face of the instrument, and in this slit the slide moves which serves to vary the amount of current in the shunt circuit of which it forms a part The remaining blocks, smaller in size, stand in the rear and are not touched by the slide We here present a diagram of the working plan of the instrument



AB are binding posts connecting the instrument with the dynamo circuit

EF are binding posts for connecting the patient with the shunt circuit

H represents the portion of the German silver wire resistance that can be made a part of the shunt circuit

H' that part of the resistance wire that can not be included in the shunt circuit

It will be seen from this illustration that while the instrument is in action the dynamo current constantly flows through the circuit BH, H', C, D, A, and that while the shunt circuit remains open at EF, that is, when no patient is in circuit, or when when the slide is at the extremity of the slot nearest to B, no current flows through the shunt circuit But should the slide be moved toward H with a patient in circuit between E and F, then we will have between the points A and B what is termed a divided circuit, and the electro-motive force with which the current traverses the shunt or patient's circuit will be determined by the difference in potential existing between the points B and A, and the distance to which the slide G is moved away from the post B

This instrument was designed to be used on the Edison 110 volt dynamo circuit, but it can also be used on the alternating system The resistance of the circuit from B to A is 185 ohms, and from B to the extremity of the resistance H 141 ohms The difference of potential therefore that can be admitted into the shunt or patient's circuit would be 141-185 of the potential difference between B and A In case that difference is 110 volts, as in the Edison incandescent circuit, the proportion that would be admitted to the patient's circuit when given its fullest capacity would be 84 volts This electro-motive force applied to a body resistance of 3,000 ohms, which is a fair average when the integument forms a part of the circuit in contact with both electrodes, would give a current

$$C = \frac{84}{3000 + 141} = 26 \text{ ma} +$$

which represents the full capacity of this instrument on the Edison circuit, with the amount of resistance named The majority of treatments with the constant current, when the skin intervenes at both electrodes, does not require a current to exceed 20 milliampères

When a mucous surface forms a point of contact for one electrode, the body resistance is very greatly lessened, seldom exceeding 250 milliampères Should this instrument be employed on the same voltage with this resistance, we would have

$$C = \frac{84}{250 + 141} = 215 \text{ milliampères}$$

as its full capacity, a current sufficiently powerful to meet the exigencies of the present treatment of uterine fibroids, endometritis, etc

The instrument is provided with a switch for letting on the current when it is needed and shutting it off when not in use Also, a gate CD, is left between two binding posts on the top of the instrument, opening into the main circuit, which can be used at any time for increasing the resistance of the main circuit The instrument is not designed for nor will it heat a cautery Neither is it suitable for lighting exploring lamps The same company have other forms of apparatus especially adapted for these purposes

(To be continued.)

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SATURDAY AUGUST 3, 1895

THE RIVAL MONUMENTS AT WASHINGTON TO HAHNEMANN AND RUSH

The chairman of the Rush Monument Committee, in another column, calls attention to a matter that he justly believes demands the serious attention of the medical men of this country The erection of a statue to PROFESSOR GROSS by the American Surgical Association, of which he was founder and President, was a very natural and proper demonstration of personal admiration and affection for their late eminent associate and friend, and no one interested in the monument to RUSH ought by word or influence to antagonize the project Indeed, among the subscribers to the testimonial to GROSS are the names of prominent advocates of a national monument to BENJAMIN RUSH

It is quite another matter, when a numerically small body of sectarians propose to glorify a foreigner, whose only claim to distinction is that he was the founder of that sect, by erecting at the capital of the Republic as superb a memorial as money can enable its members to procure The committee on the monument to RUSH very naturally feel mortified that the great body of their professional associates, who at the annually recurring sessions of their representative ASSOCIATION have for ten successive years enthusiastically applauded their efforts and pledged their contributions, forget all about the one and the other when they reach their homes

BENJAMIN RUSH's claims to the grateful remembrance of medical men in America can not be contested As DR GIHON recently stated in the pages of one of our contemporaries, no one pretends that he was impeccable He was too zealous, ardent and energetic not to err in word and deed, but his signature, one of the most conspicuous, firm and still legible, on the immortal Declaration of the Independence of these United States of America, written boldly and unhesitatingly by him when other men, who professed fealty to the cause of the rebellious colonies, feared to take this dangerous step, alone entitles him to the most imposing monument his professional brethren can erect

The project has now gone too far to be abandoned A monument of some kind will be erected, but whether it will be a commanding structure of artistic excellence, befitting the man and the profession, depends upon the amount of money subscribed It will be a humiliating contrast if in one portion of the capital city of this country there shall stand the splendid memorial of a little band of homeopaths, and in another an humble pile of bronze and granite, eked to its utmost possibility, by some self-sacrificing sculptor, as the measure of the liberality and appreciation of over one hundred thousand physicians of him, who, in the words of a great living physician, was "the greatest physician this country has ever produced "

The JOURNAL earnestly hopes the profession will realize the necessity for its prompt response to the committee's appeals, and that, as the chairman suggests, every State, Territorial and county medical society will at once take decisive action, and every individual physician contribute of his means toward the completion of this commendable undertaking

CHOLERA AND YELLOW FEVER

The news from the Orient in regard to cholera is not reassuring Cholera is raging in Corea, in the Liao Tung peninsula, in the government of Volhynia Russia, and in Japan In the latter country 9,000 persons are reported to have been attacked since the outbreak, with a mortality of 5,000 This mortality is about that of the last serious epidemic in Europe, and shows that the world has not yet placed the disease under therapeutic control We may indeed prevent its spread by careful disinfection, and by supplying pure water instead of contaminated water, but the work of stamping out the disease at its original center seems yet far away In this, Great Britain has a moral responsibility in the eyes of the world that she can not shake

The yellow fever has spread from the Island of Cuba to the Island of Puerto Rico, where it is stated that the daily mortality is about 20 per cent The Spanish troops have suffered greatly in Cuba, and the Cuban patriots have thus had an ally more invincible than armed men When the island of Cuba is once free and independent, and the military domination suppressed, there will be every incentive to stamp out the yellow fever habitat in Cuba At present, while the heel of the despot rests on the "ever-faithful isle," there is no time to seriously consider any sanitary plan, and at no time for the past thirty years have the Spanish masters of Cuba felt strong enough to undertake it The cutting of a canal from the upper bay to the sea, the cleaning and purification of dwellings, and the reconstruction of house drains, would work wonders in fever-stricken Havana Whether this generation will see the attempt made is another question From the personal observation of the editor of this JOURNAL, he is of opinion that no one who has ever seen the stagnant waters of the upper bay, in the vicinity of the Military Hospital, and smelled the vile and nauseous odor emanating from it, could fail to think of the possible change that might be wrought by the construction of a canal or a tunnel to the sea The bluest, deepest water of the Gulf passes along the coast and bathes the rocks at the foot of Moro Castle, but the Military Hospital remains now, as it has for the last century, on the shores of a stagnant sea of sludge and slime

VARIOLOUS IMMUNITY OF THE FETUS FROM THE MOTHER

At a recent meeting of the Paris Academy of Medicine, M HERVIEUX read the report of the following case by DR ANNET, a military surgeon A young woman of 24 was re-vaccinated successfully in the fifth month of her first pregnancy, her child was vaccinated at three and at six months, the latter only being successful "So far," says DR ANNET, "nothing is unusual, for we know that immunity transmitted from the mother rarely persists beyond five or six months" But the patient became pregnant again in 1894, four years after, and this second child was inoculated at the second, seventh and eleventh months, all attempts failed, though the vaccine matter had been used in several other children and always with success M ANNET expressed the opinion that this immunity could only have been conferred by the blood of the mother M HERVIEUX, in discussing the case, said we do not recognize this transmission of immunity as one of the possibilities A more acceptable supposition is that the second child was refractory, not from maternal immunity. but by reason of its individual constitution We see persons who are repeatedly vaccinated with the greatest precautions, with irreproachable vaccine matter, and always unsuccessfully But suppose they were inoculated ten times without success Nothing enables us to state that the next time would fail also So, for the child mentioned by DR ANNET, a fourth vaccination might have succeeded[1]

M. HERVIEUX might have materially fortified his position, had it been necessary, by a reference to that wonderful storehouse of facts and philosophical deductions—"Original Investigations on the Natural History (Symptoms and Pathology) of Yellow Fever," 1854–1894, by DR JOSEPH JONES, of New Orleans In his second chapter, on the "Communication of Yellow Fever Through the Mother to the Fetus in Utero,"[2] he has brought together a number of important observations covering a period of more than a hundred years, bearing upon the transmission of the poison of smallpox through systems, "themselves entirely protected from its influence and demonstrating the existing of the poison in a potential active state, as shown by the excitation of genuine smallpox in the fetus in the womb of the mother protected by previous inoculation, vaccination and smallpox"

The conclusion is unavoidable that no degree of immunity is conferred upon the fetus through any variolous or vaccinal experience of the mother, and the lesson of DR ANNET's case, for the sanitarian and health officer, is to repeat vaccination whenever there is exposure to the smallpox contagion, and often enough to demonstrate insusceptibility

CONTROL OF MEDICAL PRACTICE IN RHODE ISLAND

After eleven years of persistent effort by the reputable members of the profession—to which the State Board of Health afforded valuable assistance—Rhode Island has finally succeeded in securing legislation which should result in ridding the State of at least a large percentage of the quacks, incompetents and itinerants who have heretofore fleeced the public, uncontrolled and unmolested The Medical Registration Act, which went into effect July 16 ult, provides in substance the following conditions for the future practice of medicine in the State

1 The possession of a diploma from a reputable medical college, indorsed by the State Board of Health as such Only such colleges as require a three years' graded course are to be considered as having the indorsement of the Board, or

2 Satisfactory evidence that the person making the application was reputably engaged in the practice of medicine or surgery in the State prior to Jan 1, 1892 This evidence to be subscribed to and verified by oath, in affidavit, and such statements, if wilfully false, shall subject the affiant to conviction and punishment for perjury, or

3 Submission of the applicant—if not included in either of the foregoing—to an examination by the State Board of Health to determine the possession of sufficient knowledge to practice medicine and surgery

Under the first condition it is necessary for each and every practitioner to present his diploma to some member of the State Board of Health for verification, as well as to swear to the ownership for proof of identity and possession before a notary Under the second condition the applicant is obliged to make affidavit that he is not and never has been an itinerant doctor, and will not become such in any capacity under a certificate if granted, and that he was reputably and continuously engaged in the practice of medicine and surgery in the State of Rhode Island prior to Jan 1, 1892 Those not having the privilege of application under the so called "time limit" or second condition, and provided for under the third condition are allowed an examination before the Board to prove their ability to practice

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[1] Bull de l'Acad de Med No 28, 1895

[2] JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, VOL. XXIII, P 942

DR SWARTS, the Secretary of the State Board, says that "while this law is not all that could be desired, it has already been of value in suppressing the intentions of many irregular practitioners who are daily excluded from practice in other States, and who, making application, find that they can not meet with the requirements of the act" And adds that "in the execution of the law the Board will make every effort to see that the full meaning of the law is applied, but it will be of the greatest assistance, as it has already been, if each practitioner would consider himself as a member of a sub committee of the Board and advise in regard to individual cases which may come to his attention, in regard to midwives, "time limit" cases, disreputable or unprofessional conduct in the commercial meaning of the word, and including any questionable methods of regular practitioners"[1]

Of the estimated 600 physicians in the State two thirds of the number had complied with the law before the expiration of the sixty days after its passage and, consequently, before it actually took effect This is cited as evidence of the favor with which the act is regarded by the profession generally

THE RELATIONS OF THE NEWER PSYCHOLOGY TO MEDICINE

It is at once an advantage and also practically a disadvantage to medicine that in its widest sense it embraces a greater compass of sciences than almost any other human occupation or profession The physician should be a man of broad general culture —that is, the ideal physician should be such—as well as of minute and accurate knowledge, and the difficulty of the combination is found in the necessary limitations of the human intellect This difficulty increases with the years and the result is an ever-growing tendency to specialism in the cities, and a greater dependence of the general practitioner upon the specialist in every line The latter, on the other hand, unless he be a neurologist, who ought at least to be, in his way, a sort of "glorified general practitioner," is liable to become narrow in his medical ideas with the narrowing of his field and to give little attention to matters outside his own limited territory

It is only occasionally that a physician cultivates or gives very much attention to the lines of investigation that lie on the border lands, so to speak, of medical science, there are proportionally not many indeed who see the practical side of purely scientific investigations into what its cultivators like to style the "newer psychology," the experimental as opposed to the old introspective psychology Whatever it may have of medical interest, they are inclined to think can be taken second hand from those who are willing to glean in this field for the medical publications To a certain extent this is true, but it is not altogether so There is no one who would question the importance of the physiology of the senses, and their psychology is only a step further and one that has most important bearings on their pathology and their utilization and management in disease

While experience has taught us to use daily many of the facts deduced from ordinary observation, one trusting to this alone is nevertheless at a disadvantage as compared with one instructed and skilled in even the older psychology of introspection, and with only a slight general knowledge of the newer methods The multitudinous literature of hypnotism, for example, furnishes abundant illustration of this fact Most of it is of little value and much only cumbers the ground and had better never been written

Taken together with the later discoveries in the finer anatomy of the nervous system, the results of experimental psychology are wonderfully suggestive, and a thorough knowledge of what has been done in this line is almost essential before one can properly theorize on the data acquired by the recent discoveries We have all known and experienced the symptoms of fatigue, but how much light is thrown on the phenomenon by the physiologic psychology of the day The disease called neurasthenia, which to many is only a vague term, a sort of limbo to which to consign a large class of cases of indefinite diagnosis without any material lesions, "an ill-defined, motley group of symptoms," which it is often hard to consider as not imaginary, and falling under the same general head as hysteria and hypochondria, is supplied by the experimental investigations of physiologic psychologists on the fatigue of the nerve elements, with a perfectly rational if not absolutely established pathology

If the pathology of hysteria is to be elucidated, it seems probable that it will also have to be along the same lines, or at least that the psycho-physiologic and pathologic studies will largely aid in bringing it about Many other questions, such as why is insanity apparently on the increase, why is syphilis followed by tabes and paresis in modern times and among civilized peoples, have answers that are at least as probably true as any that have been offered, suggested by the student in physiologic psychology, that it would take too much space to give in detail here

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[1] Monthly Bulletin, State Board of Health of Rhode Island Nos 5-6

The whole range of the special senses in their normal and abnormal conditions fall directly under this head, as already indicated, and there is yet another special value of these studies for the physician, in the education as to methods and as to valuation of observed facts that they give On this account alone it would seem that some instruction in this direction could well be added to the courses of our regular medical schools But without this, the "newer psychology," the psychology of facts as opposed to that of mere theory, is a perfectly legitimate and highly profitable subject for the occupation of any unoccupied leisure of the scientific physician And for the nervous or mental specialist some acquaintance with it would seem to be an absolutely essential portion of his professional mental equipment

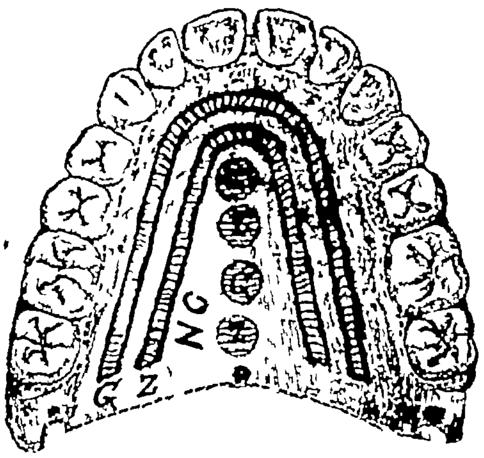
PROFESSOR HORATIO C WOOD

Our readers will read with pleasure the lecture by America's foremost medical therapeutist, in this issue of the Journal, in the Society Proceedings Department, under the heading of the Cleveland Medical Society The important subject, the well-known reputation of the lecturer, and the substance of his lecture, make this article one that will, we are sure, be appreciated by our readers

NEW INSTRUMENTS

ELECTRIC MOUTH BATTERY

The object of this invention is to obtain an electric battery which can be worn in the mouth of a person for its therapeutic effects, and also to give strength to the plate when false teeth are worn



G, gold plate, Z, zinc plate, N C, non conducting plate

This battery consists of a non conducting plate arranged to fit in the mouth, metal plates of opposite electric polarity imbedded in the non-conducting plate, conductors connecting the metal plates, such conductors imbedded in the non-conducting plate, and such metal plates so disposed as to be exposed to the action of an electric excitation by the saliva or other fluids in the mouth, and the organs of the mouth, to form elements completing the circuit of the battery

We believe this to be the most rational form of electric treatment for cases which are indicated, inasmuch as we have a mild and uninterrupted current which may be made stronger or weaker to suit the case

These batteries being in close proximity to the brain, the medulla and spinal cord, the air passages and the alimentary canal render it easy for the current to be carried to all parts of the body, thus charging the entire system, hence it may be seen that it would be beneficial in many diseases common to mankind, especially catarrh, deafness, weak eyes, headache, various nerve disorders, stomach and lung troubles, and diseases of the mouth, reducing inflammation arising from regulating the teeth In inhalation the air would pass through electrified tissue, rendering it ozonized before entering the lungs In mastication and deglutition electrified food would pass to the stomach

Will cite a few practical cases, as far as tests have gone, of positive relief, the method being new, have not had time for extensive experiments

1 Trial for acute gastric disturbance, wore plate and was relieved in a half hour, had no more trouble for two weeks when it re-occurred Not being satisfied that the battery had caused the relief in the previous case, different medicaments were used without relief, then plate was worn again about seven hours, when trouble disappeared In several weeks, beer-drinking and smoking brought on trouble with renewed vigor, which was allayed in twenty-four hours by wearing plate A series of experiments were kept up with good results

2 A case of insomnia treated with electric plate from 11 A M until 11 P M Patient went into a sound sleep, without waking until 9 A M next day The patient expressed himself as having had the most refreshing sleep he had had for years Treatment is still continued with satisfactory results

3 Closure of the Eustachian tubes, dullness of hearing and general catarrh of the nares Plate worn for about twelve hours, trouble almost entirely disappeared Treatment continued for two days in daytime only Head and ears clear as a bell ever since, four weeks having elapsed since treatment was discontinued

L L Funk, D D S

867 Blue Island Avenue, Chicago

CORRESPONDENCE

More about Truffles

Philadelphia, Pa, July 26, 1895

To the Editor —Referring to your valued Journal of the 18th inst, page 85, I would respectfully call your attention to an error in the article on "Tuckahoe," in the statement that trained dogs are used to hunt the truffle in the Old World, in France, in which nearly four-fifths of the entire production is found, *trained pigs* are used They are mostly muzzled by a ring around the jaw to prevent their swallowing the delicacy The sense of smell in these pigs is very highly developed, the truffles being often exceedingly deep underground

Asking pardon for thus bothering you, I remain,

Yours sincerely, Sidney H Bohn

NECROLOGY.

Walter Alfred Morton, M D, of Brooklyn, died July 22, aged 35 years He was a native of Westmoreland County, Virginia He was graduated at the medical school of Dartmouth College, in 1889, also at the Long Island Medical College two years later Since that time he has been a resident of Brooklyn He was a member of the Kings County Medical Society His final illness was due to pulmonary tuberculosis, the attack dating from the latter part of 1894

Albert F Tracy, M D, of Westfield, Mass, died of pulmonary tuberculosis on July 18 after an illness lasting two years He was a prominent physician and widely known throughout western Massachusetts He was born in Aurora Ont, and graduated from Victoria University in Toronto Dr Tracy was the husband of Hattie Schell, the authoress whom he married in 1893 He was a member of the Massachusetts Young Men s Democratic Club, and of the Board of Medical Pension Examiners, also a member of the Massachusetts Medical Society since 1887

The Rev James Liddell Phillips, M D, is reported to have died recently in Calcutta, India He was a well known Baptist missionary, and son of a famous missionary, the Rev Jeremiah Phillips, D D He graduated at Bowdoin College, took a medical course at the College of Physicians and Surgeons in this city, and received the degree of M D in 1864 He married Miss Mary R Sayles, of Pascoag R I and went to India in June, 1865 He founded the Bible School in Midnapoor, and was its principal for several years He returned to the United States in 1885 and became Chaplain of the State Institution of Rhode Island and was subsequently Secretary of the Evangelical Alliance of Philadelphia He was Moderator of the General Conference in Marion, Ohio, in 1886

J Westley Allen, M D, of Altoona, Pa, July 20, aged 57 ——Herman B Wittwer, M D, of Chicago, July 26 ——Walter C Overstreet, M D., of Monmouth, Ill, July 26 ——W T Strachan, M D., formerly of Lancaster, Pa, July 23, aged 65 ——Frances Kyle, M D., of Sioux Falls, S D, July 24 ——I B Lebbond, M D, of Sioux Falls, S D, July 24, aged 70 ——Augustin J Dalrymple, M D, of Baltimore, Md, July 24, aged 65 ——Lemuel D Putnam, M D, of Grand Rapids Mich, July 22, aged 72 ——Thomas Gunn, M D, of Chapman, Kan, July 23 ——Adam Bryan, M D, of Detroit, Mich, July 21, aged 66

PUBLIC HEALTH

Prophylactic Effect of Sea Air in Tuberculosis —M Lalesque has studied the prophylactic and curative action of the change to the sea air of Archachon in 220 subjects sent thither, either threatened with or suffering from tuberculosis in different forms He gives the following results prophylactic action, 50 cases, 50 recoveries Curative action, 170 cases, in the first stage 73 cases—22 recoveries, 39 ameliorations, 12 aggravations or deaths, in the second stage 37 cases—1 recovery, 24 ameliorations, 12 aggravations or deaths, third stage 60 cases—4 recoveries, 21 ameliorations, 35 aggravations or deaths M Lalesque observes that the sea air, in common with that of mountains, is notable for its purity[1]

Regulations for Consumption Sanitaria.—The Comité Consultatif Francais d' Hygiene Publique has formally approved the following regulations, drawn up by M Netter, for the sanitaria for consumptives 1, sanitaria should be built upon elevated sites surrounded by cultivated grounds and parks, these making a boundary between *the public and* the patients, who should confine themselves within its limits as much as possible, 2, each establishment should be provided with a steam apparatus for the purpose of disinfection and through which all the body and bed linen and clothing should be passed before being washed, 3, rooms should be disinfected and re painted before they are occupied by new patients, and all floors should be covered with linoleum, 4, all excreta and dejecta should be thoroughly disinfected before being disposed of, 5, patients must be prohibited from *expectorating* elsewhere than in spittoons provided, and these must be scrupulously disinfected every day[2]

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[1] Jour de Med de Bordeaux No 19, 1895
[2] Union Medicale June 22 1895

A Plea for Better Registration of Vital Statistics —Dr J I Kennedy, Secretary of the Iowa State Board of Health, commenting upon a decision of the Iowa Supreme Court, upholding the validity of the statute requiring physicians to report births and deaths occurring in their practice, urges that a faithful registration of births and deaths —" the alpha and omega of life"—would facilitate the identification of individuals and thereby aid in the settlement of estates, assist in the detection of criminals, afford data for the estimation of life expectancies, furnish to medical and sanitary science important and valuable information regarding the state of the public health, throw light upon the causal conditions under which prevailing diseases occur, thus leading to intelligent methods for prevention, and afford reliable information as to climatic influences in the production of sickness and death He believes, from personal observation as a physician extending over a period of more than thirty-seven years, and from the meager and imperfect reports in his office, that Iowa enjoys an enviable position as to salubrity of climate, physical vigor, high birth rate, proportionately low death rate and longevity, and is sure the figures could be produced to verify this belief if only the physicians of Iowa could be induced to report as required by law He thinks that patriotism and State pride should overcome any hesitation on account of inconvenience or want of pecuniary compensation But 'if the profession in Iowa, in the face of the statute and its expressed penalties, in view of the decision of the Supreme Court, in view of the incalculable benefits of these statistics to the profession and to science, and in view of their material advantages to Iowa, can not be induced to furnish these reports, I hope every physician in Iowa will unite in petitioning the next General Assembly to remove from our statutes every section and syllable relating to the registration of vital statistics"[1]

Bovine Vaccine Plant at Dublin.—A very thorough and intelligently managed vaccine establishment is possessed by the profession in Ireland The *Press and Circular* reports concerning a special investigation of the institution as follows

' We have had an opportunity of observing the process of preparing calf lymph in the establishment recently opened by Dr Denham, at Sandymount, near Dublin The calves, three or four months old, are obtained from graziers, in such number as may be required and are stabled at the Vaccine Institute, a house which is kept rigorously clean and is provided with fresh air by an electric fan Upon admission, each of these calves is examined by the veterinary surgeon to the Institute, to insure that no signs of disease exist Their temperature is taken, and a pulmonary examination is made If found perfectly healthy the belly of the calf is shaved The table upon which the animal is laid is specially constructed for the purpose, the top being capable of being tilted from the vertical to the horizontal position The animal is ranged up against it when it is vertical, and its head secured in an ordinary head-stall with a pillow underneath to prevent the animal hurting itself A strap is drawn around the body, and the table is then tilted to the horizontal position with the calf upon it, and the feet are strapped down with padded straps The belly is then shaved and the surface washed first with boracic solution and afterward with sterilized water The inoculations are then made to the number of about thirty, on the denuded surface with lymph, which has been previously tested and found free from any taint This having been done, the animal is returned to the stall As the vaccine fever develops the temperature usually goes up from 102.2 to 102 5, 102 being the normal temperature of the calf, *and, as the* vesicles develop, recedes again to the normal One hundred and twenty hours after inoculation the calf is again laid *on the table* and the lymph is taken off, in which process a clamp like a phimosis clamp and sundry other instruments, all sterilized, are used The lymph thus collected is then brought to the laboratory, where it passes into the hands of Professor MacWeeny, who, by microscopic examination and germ cultivation, tests its purity This necessarily consumes a good deal of time, during which the lymph stock is kept in a refrigerator If it is pronounced to be quite pure it is then placed in a 'pulper' or mixer, for the purpose of incorporating it with glycerin and sterilized distilled water This instrument is driven at a very high rate of speed by an electric motor, and the lymph is delivered from it in a defibrinated condition to be filled into tubes The lymph is prepared according to three methods *a*, it is transferred to points direct from the calf and without any admixture whatever, or *b*, it is defibrinated, as above stated, in the electric 'pulper' with a small quantity of glycerin and water, and put into tubes, or *c*, it is made up sufficiently liquid to press into tubes The only point in this method of procedure which might be open to question, all the rest being strict scientific work, is the care which the animals receive when in the Institute, and this we have specially noted As far as we could observe, every possible precaution and every care suitable for a human being under similar circumstances was taken with these animals"

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[1] Iowa Health Bulletin July 1895

Mob Violence Against Sanitation —Violence, with murder, has been, it is believed, the indirect result of the efforts of Europeans, to apply modern methods of sanitation against cholera in Asia The riot took place at Jeddah, on the Red Sea, and the rioters are supposed to be Bedouins In the course of the outbreak, the new cholera hospital was destroyed It is highly probable that the outbreak was a kind of reaction, or protest, against the new sanitary regulations adopted at Jeddah to prevent the spread of cholera Jeddah is a port on the Red Sea about half way between Aden and Suez, sixty-five miles from Mecca, the birthplace of Mohammed The pilgrims to Mecca usually embark there, and at this season of the year there are often 100,000 of them in the city These pilgrimages have often been the starting point of a rapid spread of the disease The Paris Sanitary Conference arrived at the unanimous conclusion that a great source of danger was to be found in the filthy condition of the wells and water tanks around Mecca and along the shores of the Red Sea These reservoirs are open to all pilgrims, and the tanks serve as bathing places as well as for the supply of drinking water The wells have been deepened and covered over, regular bathing places have been provided, and no one is allowed to bathe in the tanks from which the drinking water is supplied The pilgrims who had been accustomed to lower their filthy skin bottles into the wells, have this year had pure water measured out to them, and have not been allowed to draw for themselves As the wells are accounted holy, some dissatisfaction was to be expected, and the late outbreak is doubtless due to it The pilgrims regarded as an unwarrantable restriction of their liberty, the salutary regulations designed to save their lives and the lives of thousands to whom they might communicate the disease

Changes in the New York City Board of Health —On July 23, the Board of Health of New York city retired at his own request, Dr John T Nagle, Registrar of Vital Statistics Dr Nagle has asked for this action on the score of ill health By the unanimous vote of the board, Dr Nagle was retired on an annual pension of $600, to begin on August 1 Dr Nagle is the first officer of the Health Department to be retired under the pension law passed last winter He was himself the father of the law It allows a maximum pension of $1,200 The Health Board yesterday promoted Dr Roger S Tracy to the office of Registrar of Vital Statistics, with a salary of $3,500 a year He has been the Chief Statistician of the department for several years Dr Nagle was the chief medical officer of the Third Division of Cavalry in the Civil War, and he lately received a government pension He was appointed a Sanitary Inspector in the Health Department in 1869, and for many years he was at the head of the Bureau of Vital Statistics The new Registrar, Dr Tracy, was born in Vermont in 1841, was graduated from Yale College in 1862, and took his degree from the College of Physicians and Surgeons in 1868 He was on the medical staff of Bellevue Hospital for some time, and later studied medicine in Europe for a year and a half Soon after his return he entered the Health Department, and some years later became Registrar of the Bureau of Vital Statistics, which position he occupied until Dr Nagle was appointed to the position

Health Reports —The following health reports have been received by the Supervising Surgeon-General of the Marine Hospital Service·

SMALLPOX—FOREIGN

Austria Trieste, June 30 to July 6, 1 case
Egypt Cairo, June 17 to 24, 1 death
England Southampton, July 6 to 13, 1 case
Germany Prague, June 30 to July 6, 5 cases
Holland Rotterdam, July 6 to 13, 2 cases
Hungary Buda-Pesth, July 1 to 8, 7 cases, 1 death
India Calcutta, June 8 to 15, 19 deaths

SMALLPOX—UNITED STATES

Louisiana New Orleans, July 13 to 20, 7 cases
Michigan Battle Creek, July 23 to 30, smallpox reported Detroit, July 23 to 30, smallpox reported, Olivet, July 23 to 30, smallpox reported
Missouri St Louis, July 13 to 20, 1 case, 1 death

CHOLERA—FOREIGN

India Bombay, June 11 to 18, 1 death, Calcutta, June 8 to 15, 27 deaths

YELLOW FEVER—FOREIGN

Cuba Cienfuegos, July 18 to 30, 2 deaths, Havana, July 11 to 18, 18 deaths, Sagua la Grande, July 13 to 20, 1 case
Mexico Vera Cruz, July 11 to 18, 5 deaths

Havana, Cuba, July 20, 1895

Sir —In confirmation of my telegram of the 19th inst, informing you that "yellow fever had, within the last few days, increased considerably among civilians," I have now the honor to say that there were eighteen deaths from that disease during the week ending July 18, and that a large part of them occurred during the last few days of that week As all of these deaths were among civilians in different parts of the town and none among soldiers, it indicates a tendency in the disease to spread in the city Up to the present time very few or none of the recently arrived soldiers stay in the city longer than it takes to be formed into battalions, get clothing, etc, and be forwarded to the territory of the insurrection

Very respectfully,
D W Burgess,
U S Sanitary Inspector, M-H S

St Petersburg, July 8, 1895

CHOLERA IN RUSSIA

In the government of Volhynia from May 26 to June 22, 1895, there were 136 cases of cholera resulting in 40 death

A conference was held lately in the Ministry of Foreig Affairs between the representatives of Austria-Hungary ar Russia, with a view to carrying out the resolutions of tl Dresden International Sanitary Conference, concerni measures to be adopted in cholera time for the fronti traffic with Russia, based upon the experience obtained du ing the last cholera epidemics in Russia and Galicia complete understanding was arrived at in reference to all measures for the control of cholera, should it arise in the neighborhood of the Russo-Austrian frontier, and safeguarding the frontier traffic as far as possible

Further, the Russian Government, fearing that choler may be carried into Russia *via* Vladivostok from Japar taking every precaution Only a few days ago, six pl cians were sent to Vladivostok from the Medical Dej ment at St Petersburg, with orders to keep strict watch use all possible means of protection

John Karel, Consul-Genera

SELECTIONS

Anchylostoma Anemia in the Vicinity of Naples —Paolucci (*Riforma Méd*, 1894) records four cases of anchylostoma in 1894 This malady appears to be limited to the country on the eastern boundary of the city, where the poor tenants cultivate vegetables in fields, watered by dirty streams polluted by manure, and to which they fetch from the city, dung and a variety of filthy material All four patients were accustomed to eat freely raw vegetables and to drink the dirty water in their fields The sickness manifested itself in the usual way with pains in the epigastrium and abdomen, loss of appetite, severe anemia, increase of the white and decrease of the red blood corpuscles, and diminution of the hemoglobin There was no accompanying enlargement of the liver or spleen, and no hemorrhage The patients sought the hospital on account of the increasing pallor of skin and mucous membrane, the emaciation and debility Relative to the therapeutics, the writer praises, after a preliminary emptying of the bowels by sulphate of magnesia or soda, the use of ethereal oil of filix mas in capsules (about 7 gm in two days), after which incredible quantities of anchylostoma, well developed, were found in the stools Eggs could be discovered even until the eighth day He found not the least result after a trial with creosote —*Centralblatt fur innere Medicin*

Immunity and Susceptibility with Reference to Cholera —(Metschnikoff in *Wiener Med Presse*) The striking facts of immunity of many to cholera, and of the influence of time and place (the two factors made specially prominent by Pettenkofer) on the course of a cholera epidemic, the writer believes he can for the most part explain, on the strength of numerous experiments and observations, through the varieties of bacteria in the intestinal canal He noticed, for instance, that different bacteria in plate cultures exerted a distinctly favorable influence on the growth of cholera vibrios, among others especially sarcinæ and the white yeast, called torula On the other hand, he found bacteria among which was the bacillus pyocyaneus, which plainly retarded the growth By reason of these facts, he examined closely the bacteria in the human intestinal canal in regard to their behavior toward the cholera vibrio and here also he was able to cultivate the previously mentioned torula and a sarcina and a bacillus not liquefying gelatin, all favorable to cholera, and from the intestine of animals he isolated several varieties of bacilli and a thick coccus, having an opposite tendency He comes to the conclusion that the bacteria of the intestinal canal play an important rôle in the immunity and susceptibility of man and animals toward cholera Through this, the fundamental truth that the *vibrio of Koch* is the specific cause of cholera, can be brought into accord with the results of epidemiology and especially with the influence of time and place on the course of a cholera epidemic —*Centralblatt für innere Medicin*

Preliminary Report of 1,000 Abdominal Operations by Professor Schauta.—During the ten years (Nov 23, 1884, to Feb 10 1894) the total mortality in these cases was 10 7 per cent (104 deaths), 46 deaths were traced to the operations In 54 cases septic processes caused death Of the 46 deaths directly due to the operations, in 35 there were septic processes, in 8 secondary hemorrhage, in 2 intestinal perforation, in 1 acute anemia Of the remaining 58 deaths, 12 were due to cardiac weakness, fatty heart and the anesthetics Of 11 exploratory operations, 7 were fatal The operations are next arranged in 16 groups 1, ovariotomies, 198 cases, 182 recoveries, mortality 8 1 per cent , 2 deaths from operative sepsis, and 2 from secondary hemorrhage, together 2 2 per cent In 12 deaths indirectly the result of operation, were 2 cases of infection with streptococci from the contents of tumors, 2, adnexa operations 318 for chronic inflammatory affections Of these 290 were pyosalpinx, ovarian abscess, salpingitis, oöphoritis, 259 times the adnexa were removed on both sides, in 75 times there was discharge of pus, in 27 cases gonococci were found in the pus, in 13 streptococci, in 4 staphylococci, in 5 diplococci whose nature could not be immediately decided, in 1 the bacterium coli commune In the 25 remaining cases either no bacteriologic examination was made or the pus was found sterile Of the 290 cases, 278 recovered, mortality, 5 5 per cent Five laparotomies for hydrosalpinx with 2 deaths (1 pneumonia, 1 peritonitis), 5 for hematosalpinx, 5 for tubercle of the tube with 1 death from intestinal perforation From these 318 operations, 20 deaths, 14 due to the operation, 3, castration, 56 cases, 2 deaths from secondary hemorrhage, 4, Porro's Cæsarean section, 7 cases (2 for stenosis of soft parts, 1 for osteomalacia, 2 for existing infection of uterus, 2 for rupture of uterus), 5 survived, 2 children lost (dead before removal) Conservative Cæsarean section with suture, 37 cases, 16 times for absolute narrowing of pelvis, 15 for relative, 4 for eclampsia, and 1 for tumor causing stenosis of vagina All the children survived, 4 mothers died, 1 from sepsis, 5, supravaginal amputation of uterus, 74 cases, 18 deaths, 6 supravaginal amputation with retroperitoneal provision for pedicle, 2 cases, 1 death, 7, myomectomy (Schroder) with intraperitoneal provision for pedicle, once with unfavorable result (sepsis), 8 supravaginal amputation with interperitoneal suspension of stump (Maydl), 1 successful cases, 9, enucleation of nodular myomata by laparotomy, 18 cases, 11 recoveries, 10, by ventrofixation, 77 cases, all recovered, 11, total extirpation of uterus (by laparotomy) 8 cases, 1 for myoma (1 death), 1 for carcinoma (3 deaths), 12, total extirpation by vagina, 181 cases, 14 deaths, 13, ventro vaginal total extirpation, 8 cases, with 5 deaths from sepsis, 14, sacral total extirpation for carcinoma of the uterus, 15 cases, with 5 deaths, 15, laparotomy for extra uterine pregnancy, 40, with 4 deaths, 16, in this group are included laparotomies for various other indications The most interesting is one for purulent peritonitis following abortion —*Centralblatt fur Gynäkologie, from Wiener med Wochenschrift*

MISCELLANY

Change of Address —Dr G K Dickinson, to 278 Montgomery Street, Jersey City, N J

The Atkinson Medical Society Register —Dr W B Atkinson, of 1400 Pine Street, Philadelphia, Pa , has now in press his "Register of Medical Societies" It is desirable that no society be omitted, and the publisher requests that secretaries of societies will promptly furnish him with data for publication

Curran Anecdotes —Curran's ruling passion was his joke, and it was strong, if not in death, at least in his last illness One morning his physician observed that he seemed to "cough with more difficulty"

"That is rather surprising," answered Curran, "for I have been practicing all night"—*Lx*

Ventilating Warships —Commander Bradford of the inspection and survey board has been chairman of a sub-board which has been examining into the methods for ventilating warships This has become a very serious problem in the building of the Navy, and several different plans have been suggested The fresh air is pumped in and the foul air pumped out by fans, this being found the best practicable method The motive power for these fans is one that has caused considerable discussion A suggestion which meets with a great deal of favor and which may be recommended by the board is to conduct the power by electric wires, which avoid the heat of the steampipes and the large openings through the bulkheads and save space in the apartment where the fan is operated, as the motor takes up less room than an engine

Central Wisconsin Medical Society —At the annual meeting of the Central Wisconsin Medical Society, held at Baraboo, the following officers were elected for the ensuing year President, J E English, Baraboo, Vice-Presidents, Charles Horst, Baraboo, H P Johnson, Beloit, D Pender, Janesville, M B Sharp, Madison, Secretary, C S Sharp, Madison ——At the annual convention of the Illinois Pharmaceutical Association, held in Decatur, Ill, the following officers were elected for the ensuing year President, G Henry Sohrbeck of Moline, first Vice-President, Thomas Knobel of East St Louis, second Vice President, J W Blood of Chicago, third Vice-President, W C Simpson of Vienna, Treasurer, Dr H H Rogers of Kankakee, Secretary, Frank Fleury of Springfield

Effects of Serum-Therapy on the Urinary Secretion —As the result of his recent investigations M Mongour announces that 1, hyperazoturia is constant after injections of antidiphtheritic serum, the amount of urea is generally double that found before the treatment and in all cases is above the normal—the more rapid the cure the higher the amount, apparently 2, this hypersecretion of urea is only to be attributed to serotherapy, since it is not due to thermic influences or to any modification of diet 3, it only lasts for the twenty four hours following the injection, after which the amount of urea decreases until the normal is again reached 4, the inversion of the formula of phosphates and chlorids seems to be a consequence of the diphtheritic infection 5, the injections of serum destroy this inversion and bring the phosphates and chlorids back to the physiologic figure[1]

The Quick Getting-Up After Childbirth—A Matter of Drainage—Dr A Rose has written to the New York *Medical Journal*, July 20, in confutation of the doctrine that lying in women are advantaged by the prolonged recumbency that is almost universally practiced at the present day Dr Rose calls attention to the fact that, a number of years ago, the question was experimentally studied at the obstetrical clinic of Halle, Germany Five hundred women, after normal confinement, were allowed to rise as soon as they pleased and remained up out of bed as long as they felt like it—*i e*, as long as they felt comfortable Some of these women left the bed for a shorter or longer time as early as the second day postpartum No ill consequences could be observed in any of these 500 cases Five hundred other women under similar circumstances, were kept in a recumbent posture, or in bed, according to the time-honored custom, for a week or the well-known *superstitious nine days* The result was strikingly in favor of the 500 early risers

Influence of Variola on Menstruation, Pregnancy, Parturition and the Fetus—Dr L Voigt reaches the following conclusions as to the influence of variola on the uterine functions 1, variola, both during the period of invasion of the fever and after the appearance of the pustules, causes a congestion of the inner surface of the uterus and this congestion in most cases produces the appearance of the menses or a genital hemorrhage resembling them 2, the same cause gives rise to abortion or premature birth in half the cases of pregnant women who were vaccinated during childhood 3, the life of pregnant women is seriously menaced in confluent and above all in hemorrhagic smallpox 4, hemorrhagic variola is observed much more often in pregnant women than in others 5, the mortality of pregnant women attacked with variola and who have been vaccinated once during youth is from 30 to 45 per cent, while in that of women delivered during the disease it is 59 per cent 6, pregnant women who are not vaccinated are in much greater danger than those who are 7, children of women attacked with variola are in much greater danger than their mothers, nearly all succumb either in utero or shortly after birth from congenital feebleness or they contract variola before or during birth 8, on account of the great danger to mother and child we should protect pregnant women by a fresh vaccination, and vaccinate newly-born children, if they are robust enough, each time they are exposed to variola[2]

Murphy's Button—Mr Ernest Lane has recently contributed to the London *Lancet* reports of three cases in which he used the Murphy's button, giving a favorable opinion of the device Mr Lane has other cases to add to the list that is kept up by Professor Murphy himself It is not to be expected that the lists of cases are complete, and probably, as in most similar instances of a new operation or procedure, an undue proportion of successful cases have found their way into print But this applies equally to all other methods of intestinal anastomosis, and in no way invalidates the comparison of the results of using the Murphy button with other modes of performing the operation The editor of the *Lancet* proceeds to comment in the following conservative and yet commendatory manner, of the button

"Professor Murphy's button has now been largely tried by a great number of surgeons, especially in America and Great Britain, and also on the continent of Europe The consensus of opinion seems to be that it admirably fulfills the two primary requirements, it greatly shortens the operation, and by its use intestinal anastomosis can be made with great precision, and as a result the mortality of these operations has been greatly reduced Against this most satisfactory result two facts may be mentioned as a set-off In the first place the button is a rather complicated and very delicate piece of mechanism, it requires to be made very well, and to be used with gentleness and care Again, the button, when set free by the separation of the rings of bowel compressed between the two portions of it, may linger for a long time in the alimentary canal, but, so far, experience has shown that this retention of the button is not attended with danger Too much weight must not be given to these objections to the use of the button Simplicity of construction is to be diligently sought in all our appliances, and we doubt not that Professor Murphy himself, or some other surgeon with a mechanical genius, will be able to devise some simple method of attaining the same mechanical result Delicacy of mechanism is not a fatal objection—at most it is a remediable defect, and Professor Murphy's tables show that it is compatible with brilliant operative results He has certainly succeeded in lifting this whole department of operative surgery—not one isolated operation merely—on to a different and better plane, and has given intestinal anastomosis a position in surgical therapeutics it has never held before"

Fakir Journalism—Fakirism exists in medical journalism to an alarming extent To the uninitiated the field of medical journalism is an undiscovered country It is only after one has been on the inside that he can properly discriminate between those medical magazines which are conducted upon an honest basis and those which claim the earth while possessing little of it Unfortunately for the respectable, deserving and honest journals, fakirism often presents a guise so attractive, a dress so deceptive, that the cloven hoof is not easily seen However, sooner or later, the true inwardness of things can be made out and our confidence is once more shaken There are different ways of running and building a medical journal One way is to resort to exaggeration to deceive the advertiser "In less than thirty days our books showed a list of 5,800 paid subscribers," is the statement made by one journal which went up like a rocket, and is now coming down Such statements would cause Don Quixote and Munchausen to hide their faces in shame Yet this is a mild mannered statement compared with some A certain journal is known to claim a circulation varying from 7,800 to 10,000, and yet never prints more than 1,000 copies, including sample copies and exchanges And so the tricks resorted to by some might be multiplied indefinitely There is only one correct way to conduct a medical journal That is to be honest with yourself, honest with your subscribers and honest with your advertisers In the course of events this plan will outstrip all others, and will result in the permanent prosperity of the journal and the journalist One subscriber gained and kept is better for all parties concerned than ten sampled or one hundred claimed by a Munchausen sheet The inserting of the pictures of nude women within the advertising leaves can not be condemned too severely It is an insult to the doctor and to the reputable advertiser Based upon the supposition that doctors delight in the nude and lewd, it is a reflection upon the morality and good sense of the profession The "female form divine" may look well upon canvas, placed in a metropolitan gallery of art, but certainly is out of place in a medical journal which reaches the eyes of the doctor's family, and often is read by the doctor's patients The frantic efforts of a job printer to herald his lack of good taste are very much in evidence We hope soon to see the last of this kind of fakir journalism—*Tri-State Medical Journal*

Chancre of the Eyelids—Mr Simeon Snell, of Sheffield, reported to the Ophthalmological Society of Great Britain a number of *outré* occurrences of primary syphilis, inclusive of nine cases of palpebral chancre In the discussion of the subject two or more speakers referred to the affection as being one that was not rare in their practice, one specialist going so far as to say that Mr Snell's paper was chiefly interesting and important from the point of view of diagnosis

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[1] Jour de Med de Bordeaux, No 10, 1895

[2] Am Soc Med Chir de Liege, No 5 1895

Another speaker averred that cases of this lesion are often times so slight that the patients may recover without resorting to hospital treatment Mr Snell is reported, in the *Press and Circular*, to have said he had collected notes of nine cases of chancre of the conjunctiva, and he related one or two of the more typical, observing that very few of such cases had been reported, though they could not be very rare, judging from the number that came under his observation The first case was that of a woman age 21, with a chancre at the internal canthus, also involving both eyelids, the lower more than the upper The caruncle was also implicated The ulcer was the size of a shilling, and there was much induration The gland in front of the ear and the submaxillary gland were enlarged She was a nurse, and had probably caught the disease from the infant, the offspring of syphilitic parents She was engaged to be married at the time, but the marriage was postponed until nine months later She has been pregnant six times, but has never gone to full time The sixth child, the only living one, was now 3½ years of age It was healthy until ten months of age, when it developed signs of congenital syphilis, and had since had fits, followed by paralysis The patient herself was well and healthy looking, but there was some epiphora marking the site of the chancre There was no history of her husband having suffered from the disease The second case was that of a man, age 30, who came on September 20 He was married, and had had five healthy children He said he had cut his head open, and had washed the wound with some blood stained fluid, the accident having occurred in a slaughter house A month later a small spot formed, and when he presented himself there was an ulcerated surface with indurated base and raised edges involving the whole of the outer surface of the right upper eyelid The præauricular and cervical glands were enlarged The patient suffered, among other things from an eczematous condition of the penis and scrotum His wife came in June, 1888, having had lumps in the groin with ulceration of the tongue, etc The third case was that of a man age 55, with a chancre on the right inner canthus, involving both eyelids at the junction The præauricular gland was indurated The ulceration healed in six weeks Nothing was made out with respect to the means of infection, but he lived in a model dwelling house in which there were only four towels for eighty persons The other cases more or less resembled those he had related The ages varied from childhood to adult life, and comprised four males and five females

Advertisements of Secret Remedies —The following circular has been issued

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

To the Editor and Publisher

Dear Sir —As a committee appointed for that purpose, we desire respectfully to call your attention to the following extracts from Minutes showing the action taken by the Trustees of the AMERICAN MEDICAL ASSOCIATION and by the Medical Society of the State of Pennsylvania, respectively

' REPORT OF THE TRUSTEES OF THE AMERICAN MEDICAL ASSOCIATION

" BALTIMORE, MD , May, 1895

" During the year no advertisements of secret remedies have been accepted that were not accompanied by a formula, but to still further comply with what appears to be the desire of a large number of those interested in the highest success of the JOURNAL, the editor, with the termination of the present contracts, has been instructed *to accept no advertisements of medicinal preparations, the proprietors of which do not give a formula containing the official or chemic name and quantity of each composing ingredient to be inserted as a part of the advertisement* "

" CHAMBERSBURG, PA , May, 1895

"*Resolved*, That the Medical Society of the State of Pennsylvania congratulates the AMERICAN MEDICAL ASSOCIATION upon the decision of the Trustees to exclude unethical advertisements from the JOURNAL of the ASSOCIATION

' *Resolved*, That a committee of three be appointed to communicate with the editors and publishers of medical journals in the United States calling their attention to this action of the AMERICAN MEDICAL ASSOCIATION, and requesting them to accede to the wishes of the profession by adopting a similar rule "

Allow us also fraternally to state that we believe that the best interests of medical men are coincident with scientific accuracy, so far as this can be obtained, that the practitioner of medicine should therefore know in all cases, the character of the drug, and the formula of the preparation or chemic compound that he prescribes, that the use of a secret preparation or nostrum is undeniably unscientific, and can not be intelligently defended, that, hence the advertisement of such preparations by scientific journals is out of place, its effect being to promote quackery and discourage scientific prescribing, that we believe the exclusion of such advertisements will aid the circulation of medical journals and give them a dignity and character not obtainable without such exclusion, that the hearty manner in which the action of the Trustees of the AMERICAN MEDICAL ASSOCIATION and that of the Medical Society of the State of Pennsylvania was received, shows the very cordial indorsement by the profession of the policy here recommended We, therefore, most earnestly ask your careful attention to this subject, hoping and in behalf of this society requesting that you will adopt a similar rule to that of the Trustees of the AMERICAN MEDICAL ASSOCIATION

Very respectfully yours,

(Signed,) Special Committee
S S TOWLER, M D , Marienville, Pa
J J BUCHANAN, M D ,
1024, Penn Avenue, Pittsburg, Pa
C H THOMAS, M D ,
1807 Chestnut Street, Philadelphia, Pa

To the Members of the Profession of Medicine in the United States.—The following from the *Evening Star*, of Washington, D C , of Saturday, July 22, 1895, is commended to the careful, thoughtful consideration of every member of the profession

" THE HAHNEMANN MEMORIAL—A GRANITE ELLIPTICAL CURTAIN BEHIND THE BRONZE STATUE—TRIBUTE OF THE AMERICAN HOMEOPATHIC INSTITUTE TO THE PHILOSOPHER AND PHILANTHROPIST

"At the recent meeting of the American Institute of Homeopathy at Newport, R I , the committee on the memorial to Hahnemann consisting of one physician from each State and Territory, with the indefatigable worker and father of the project, Dr J H McClelland, of Pittsburg, as chairman, made its report The committee secured the assistance of several artists, notably J Q A Ward, and an advisory committee, composed of five well-known members of the American Sculptors and Architects' League—three sculptors and two architects They called for competitive designs from every source and country, offering prizes for the best three The advisory committee Messrs Daniel C French, George E Bissell Thos Hastings, Olin L Warner and Russell Sturgis, announced that, in their judgment, the first prize of $500 should go to the design of Charles H Niehaus, of New York, the second prize of $300 to Joseph Loester, of New York, and third, of $200, to Herbert Adams, of Brooklyn Marsh, Israels & Houder are the architects associated with Mr Niehaus in his design, which has been accepted on the expert report by the monument committee The description of the monument prepared by the committee says

" The monument is a true ellipse in plan, its fundamental motive being the Greek exhedra form The main lines of the central portion present a flat curtain wall with decorated tympanum above the impost This, together with the projecting lines of the ampures forms architectural vertical divisions of this elevation, which is thus resolved architecturally into component parts, resulting in a well-proportioned and equally balanced composition Rising from the platform in front of the central portion is a simple pedestal supporting the statue, upon the face of which appears the inscription '*similia similibus curantur*' Other inscriptions and decorations are of a character significant of and glorifying the work methods and results achieved by the great reformer The upper portion of the niche behind the statue it is intended to decorate in glazed mosaic, in colors, of a design composed of the foliage and flower of the cinchona plant On either side of the arch are decorative emblems in bas relief—a bowl and serpent, the symbols of wisdom, and a lamp and book, typical of knowledge and instruction The former in association with a palm branch, the latter with a wreath of laurel The keystone of the arch bears a lion's head, the symbol of strength in leadership Upon the rear the date of erection appears across the center in Roman numerals and the dates of Hahnemann's birth and death, 'Meissen, April 10, 1755,' 'Paris, July 2, 1843,' encircled with laurel wreaths, are inscribed to the right and left

" In the center, filling the tympanum of the arch, appear

1882, the students of the Hospital College of Medicine at Louisville, were taught the *details* of the methods of demonstrating the presence of the bacillus in the expectorated matter of consumptives

The great work of Ephraim McDowell, over at Danville, in 1809, did not receive recognition by the profession, generally, for sixty years, because the profession of medicine had no representative national organization, international congresses had not brought the inventor of a great surgical means of prolonging life, face to face with his brethren of all nations

The great Lister was enabled to inaugurate the universal reform in all surgical procedures, eliminating every element of danger from septic poisoning, and death from surgical wounds, by discussing his methods in society meetings The medical journal helps the societies to spread quickly over the whole world the newest demonstrations of the members, with such criticisms and discussions as the society indulged at the time The work done by societies may be well illustrated in the great changes made in Lister's own methods at Edinburgh, and subsequently at London and those which followed as the natural results of the criticisms and discussions of them by the International Congresses of 1876 and 1879 In the Congress of 1881, antiseptic methods had already been abandoned for the aseptic principle, and the technique of the masters became at once the common property of the members of that congress, and all its constituencies in every country of the civilized world The ethical codes defining the right conduct for individual members of the regular medical profession, brought about those harmonious relations which led to the organization of representative and delegated assemblies of medical men, and proved at once the common interests of the profession all over the world, established the national and international congresses, and put the newest and best fruits of all original research into the hands of competent practitioners in every town and country place having a member of a regularly organized medical society

If reading these great works alone were sufficient to convey a knowledge of them so clearly as to enable one to practice them, colleges would not be necessary for the education of students, and societies would not be necessary for the training of practitioners in correct methods of observation

In 1847, the American Medical Association was organized as the representative national body of the medical profession in the United States It adopted a code defining the right conduct of those fit to become members, and provided rules for the determination of the proper qualifications of individuals by the profession of each city, town, county and district An obligation to observe the rules of right conduct defined in that code makes any regularly educated physician eligible to membership in a society of representative capacity Any society adopting as part of its constitution, the code of the national body, can send one delegate for each ten members, and one for any fraction of more than five, to the next ensuing annual meeting of the American Medical Association These delegates are admitted to membership in the national body, on filing their credentials and paying the annual dues of $5 in advance, and signing a personal pledge to observe the Code of Ethics Any member of the national body is admitted to all associations and congresses of the profession everywhere, may enjoy any of the discussions of original matter, and witness the demonstration of newly discovered facts, and convey them to his brethren at home

The Kentucky State Medical Society was organized in 1851 and adopted the Code of Ethics of the American Medical Association as part of its constitution It has had representatives in each annual meeting of the national body, and in all the international congresses, since the first one organized at Paris, France, in September, 1867, where our lamented brother, Prof Lunsford P Yandell Jr, was received with great *éclat*, as from the home of McDowell and Dudley

The Kentucky State Medical Society admits to its membership all those who hold membership in the local societies at their places of residence, and who obligate themselves to an observance of the national Code of Ethics We are here in our strictly professional capacity, as the representative body of the regular medical profession described in the code of right conduct, and our deliberations will be received and duly respected by the profession all over the world Some of the matters discussed at this meeting will be published in all countries

You see how important it is to have some standard by which to test the qualifications of those claiming membership in the medical profession, and how necessary it is for every community to have its medical society You see, also, that the medical man who belongs to no society is not in fellowship with his profession, and can not, therefore, be regarded as a member in good standing He is unworthy of your confidence, because he is, in fact, not a member of the regular medical profession to which he claims to belong

In the Code of Ethics the delicate and responsible duties of the practitioner of medicine to the patient, are duly set forth He is counseled to seek consultation in all difficult and protracted cases, for the purpose of inspiring confidence, energy, and more enlarged views in practice, as well as to secure the patient against a possible chance of any neglect to perform even the most trivial service In the regular profession of medicine, where education is graded and knowledge has a fixed standard for entrance into the profession, there can be no mistake that the patient's welfare will not be duly considered If, however, consultation were demanded by one of that class who make a pretense to some exclusive system of practice, there could be no possible advantage to the sick, because the limitations of an exclusive system of practice would forbid an extension of the boundaries, or an enlargement of the plan of treatment

It may be fairly assumed that what is known to one man in any professional class, must receive the sanction of his confrères to give to it the dignified designation of knowledge For we must limit that which we call knowledge to matters susceptible of demonstration, as it is by demonstration only that knowledge may be conveyed from one person to another In the pursuit of knowledge, therefore, the regular profession of medicine is bound by no limitations, excepting those imposed by nature, and when we look about us and observe those who claim to practice by some exclusive method, or proclaim their choice of remedial agencies upon the basis of some dogmatical system, we must conclude that, either false pretenses are resorted to, to support this claim or that it is founded in ignorance so dense as to excite profound commiseration

The study of the life history of plants, and the laws governing their reproduction, as well as the composition and adaptability of soils and climates, are fields of inquiry open to all The agriculturist, therefore, who still claims to be governed by the superstitions attaching to the signs of the zodiac, or the phases of the moon, possesses no convincing arguments to support his ignorance, and so it is with the followers of Hahnemann, and other founders of conjectural systems of therapeutics

There is nothing in the Code of Ethics of the regular medical profession which forbids the broadest liberality of sentiment and opinion, either in consultation or other professional intercourse, and no limitations known to the human mind in the choice of remedial agencies or methods of study

The members of the medical profession upon whom is enjoined the performance of so many important and arduous duties, and who are required to make so many sacrifices of comfort, ease and pleasure for the welfare of those to whom their professional services are constantly given, certainly have a right to expect and require that their patients should entertain a just sense of the duties and obligations naturally due to their medical attendants It is manifestly the duty of the patient to select as medical adviser, one who has received a regular medical education In no trade or occupation in life do men rely upon the skill of an untaught artist or an untrained hand Does any one suppose knowledge of the profession is intuitive? Are we not all familiar with the constantly increasing requirements medical colleges exact of their students? And this is, after all, but the response to the constantly increasing demands for more learning in the profession of medicine Patients should, therefore, prefer a physician whose educational training is known to be thorough, whose habits of life are regular, and who is not devoted to social pleasures, to business pursuits, nor bound by any sort of obligations which might divert his attention from the constant discharge of his professional duties The patient should, if possible, avoid even the friendly visits of a physician who is not attending him, but, when he desires to change his medical attendant he should candidly express that desire

Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness He should, therefore, observe strictly such laws as are instituted for the government of its members He should, with unwearied diligence, resort to every honorable means of enriching the science and ennobling the art He should at all times entertain a due respect for his seniors who have, by their labors, brought the profession to the advanced position in which he finds it

Our code says it is derogatory to the dignity of the profession to resort to public advertisements, private cards, or handbills, inviting the attention of individuals affected with particular diseases, publicly offering gratuitous services to the poor, or promising radical cures, or to publish cases and operations in the daily papers, or to suffer such publications to be made, to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine, or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or others For, if such nostrum have real efficacy, any concealment of its nature is inconsistent with beneficence and professional liberality If mystery alone can give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice

The professional life is entirely inconsistent with any sort of avarice The desire for pecuniary gain never displaces the unquenchable thirst for knowledge and skill The public ought therefore never to lose sight of the necessity of according to the regular profession suitable compensation for public services

The assumption of a special title, or the claim of any superiority of methods in practice must expose such person to the suspicion of fraud For by education alone can any one acquire sufficient knowledge of the profession to be able to practice it intelligently, and the titles bestowed by institutions of learning are always graded in accordance with the *amount* of systematic study pursued and the degree of excellence in scholarship Thus, Doctor of Medicine means that person upon whom that title has been conferred is so learned as to be able to teach the profession to others It does not mean that he can treat diseases of some particular part only, but it implies a sufficient knowledge to be able to engage in any department of practice

Our code recognizes specialties as legitimate fields of practice, but there are no special fields of practice which may be properly cultivated independently of the state of the general system, or of the most remote organs

The title of Doctor in Medicine covers the whole range of professional knowledge, and is never bestowed upon any who do not pursue the entire curriculum of the colleges

Every practitioner owes his best professional services to all the other members of the profession, and all their dependencies No affluent member, however, would accept the service and tax the time of his impecunious brother without bestowing upon him a suitable honorarium

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SOME MOOTED POINTS IN PELVIC SURGERY

CHAIRMAN'S ADDRESS

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md., May 7 10 1895

BY FRANKLIN H MARTIN, M D
CHICAGO

In selecting for the subject of my address, "Some Mooted Points in Gynecologic Surgery," I am aware that I may lay myself open to criticism for presuming to bring before a body of medical practitioners constituting the highest national representative body of American gynecology, subjects which may be considered hackneyed—subjects upon which but little that is new can be advanced My excuse can readily be understood by every pelvic or abdominal surgeon Every such surgeon is a learner and an original investigator from the beginning of his career until its end, or a failure No one ever learned laparotomy by attending lectures or by watching a master, or by the perusal of books No one ever learned laparotomy in a personal experience of a year in actual abdominal work on animals or on patients, in a series of one hundred cases or two hundred cases He, who, to his own mind has mastered this intricate and most important branch of surgery at any point in his career, is but an infant to whom greatness and fame will always remain strangers A laparotomist must become an idealist if he is to progress and approach success Couple with the idealist enthusiasm, with enthusiasm brains, with brains knowledge, with knowledge industry, with the foregoing honesty, and with all these ambition, and an abdominal or pelvic surgeon will develop who will always be less satisfied with himself than is any *one* else As an idealist he will constantly seek to accomplish the ideal in surroundings which can never become so Thus perfection will be sought, which while it can never be obtained can in this manner, only be closely imitated

What, then, is my excuse for my subject? It is, that here in the shadow of a renowned institution with its brilliant surgeons, in the hearing of others possessing the attributes which have *made* them renowned gynecologists, I wish to bring these mooted points, the discussion of which may increase our idealism, which may arouse enthusiasm for our specialty, add to our knowledge, increase our honesty of purpose and industry, and not least of all aid in developing a laudable ambition *Not that all of these* desirable things will be accomplished by my feeble effort alone, but the feeble effort, reinforced by the discussion of the subjects presented by this Section, may succeed in accomplishing something in that direction

In dealing with my subject I shall *not* quote authorities, I shall not ransack literature in order to establish priorities, I shall not exploit methods

The methods of every experienced gynecologist are an evolution from the methods of some admired teacher, together with accretions gained by subsequent observations, experiments, readings, reflections, and personal experience—an evolution from these to his own settled routine which has become his technique Thus I will discuss these subjects from the light evolved from my own experience

TREATMENT OF FIBROIDS OF THE UTERUS

The surgical treatment of fibroids of the uterus is always a fruitful subject for discussion in gatherings like this The fact that the subject is such a fertile one for debate, the fact that it is a debatable question, is the best proof that no one method has yet arisen which meets all indications, and that the question should be discussed until our debates show a lamentable lack of interest as a result of general agreement

“Do you employ electricity in the treatment of fibroids of the uterus as much as you did formerly?” is a question which I have frequently to answer To answer this question in the affirmative would be to admit that I ignored the recent great progress in abdominal hysterectomies and other pelvic surgery, and also to admit that electro therapeutics had not progressed While I employ electricity successfully in a large number of fibroids, I do not employ it in the same large proportion of cases that I did formerly

The cases upon which I do the most satisfactory work with electricity now, are those which surgeons who have a wholesome regard for their statistics refer to me to get rid of, or similar cases which come directly to me They are usually large hemorrhagic tumors, the subjects anemic, hearts hypertrophied, kidneys diseased, skin waxy, respiration difficult Filled with pelvic pain, pelvic pressure and pain of peritoneal adhesions Uterus deep and irregular, menorrhagic when not bleeding, discharging semipurulent *fluid* Digestion ruined, secretions checked, bowels constipated and reflexes run rampant In other words, among the most deplorable cases that it becomes a surgeon's lot to behold

These cases I treat with galvanism in strong doses, systematically and rationally applied, combined with the most appropriate general tonics and alteratives I apply the galvanism with the idea of getting the following well-known effects of the current 1, most powerful general tonic, 2, powerful local antiseptic, 3, anti-hemorrhagic effect of positive pole, 4, local trophic stimulant

I have not time to tell how much these apparently desperate cases invariably improve under this treatment, how I have resuscitated case after case so that they *have been able* to have their burdens removed by skillful surgery and again live, how I have been able with treatment from time to time to keep *symptomatically* well a score of patients who under no circumstances would have an operation of the safest nature, and who before electricity came to their aid were bedridden

Another class of cases in which galvanism is a justifiable means of treatment is that of the hemorrhagic variety not of large size, the subjects of which are near the menopause The hemorrhage can often be controlled and the atrophy of the uterus which is a usual coincident of the establishment of the menopause will do the rest I have saved many such cases the horrors of an operation, while at the same time keeping them in symptomatic health during this precarious time of their life

However, in the present state of pelvic and abdominal surgery, I would not voluntarily administer or recommend galvanism for fibroid tumors, the subjects of which were under 40 years of age, whose tumors were suitable for operative procedures, and whose general health would show an average chance for favorable surgery While I would expect to be able to control the hemorrhages in the majority of such cases, improve their general health, and to reduce the size of the tumor, relieve the endometritis, and stimulate absorption of peritoneal adhesions, I would not expect these results to be permanent in a large enough proportion of cases to justify keeping the patient away from the more permanent and satisfactory results of modern surgery

I can not admit that galvanism ever does harm in these cases except that it may be the means of keeping patients away from more effective surgery It almost invariably accomplishes good, even if applied but a short time Galvanism, except in fatal doses, the opinions of certain surgeons to the contrary notwithstanding, never produces peritoneal adhesions It is one of the most powerful antiseptics we have, and the only one we can send through deep tissues without traumatism

Needles, probes and other forms of electrodes improperly employed may carry septic material where they should not, electricity never does Electricity irrationally and erroneously employed in cases of pelvic accumulation of pus, may, by producing powerful muscular contractions empty a pus sac into the peritoneal cavity This would be but the abuse of a powerful remedy instead of legitimate use

Thus, as gynecologists, the better we understand our armamentarium the more will we value galvanism The gynecologist who ignores this remedy, given to us by an exact science, will have reason to bark hard at its aggressions, and by his bark can we appreciate his hurt, and at the same time estimate his loss

REMOVAL OF APPENDAGES FOR FIBROIDS

This operation, popularized by Tait and his followers, as a remedy for fibroids of the uterus, has in my opinion about run its course While, since its discovery it has served to relieve and cure many women suffering with fibroids, like all of the minor surgical methods for that difficulty, it has that fatal element of uncertainty, which in the light of the comparatively safe and certain hysterectomy makes it less popular as a remedy than it was before the appearance of this more successful rival

The curative effect of the operation for the removal of the appendages is based upon 1, its producing an artificial menopause—thus checking the hemorrhage of hemorrhagic fibroids, 2, the cutting off from the uterus, nourishment supplied by the ovarian arteries, thus reducing the tumor by direct curtailing of the normal blood supply of the uterus, and 3, any indefinite influence which such an operation may exert on the trophic nerves of the uterus, thus giving that organ and its ungainly parasite the benefit of any uncertain results which may occur from such a disturbance

Theoretically, this is all a little vague Practically it controls the menorrhagia of fibroids in about 92 per cent of the cases upon which the operation is performed Invariably, almost, where the menorrhagia is not checked, the tumor continues to enlarge and in a small percentage of cases it continues to grow, even when an artificial menopause is established In a small percentage of cases only, does the tumor entirely disappear, even when a symptomatic cure is enjoyed Therefore the tumor remains indefinitely, a constant source of anxiety, if not of possible future harm

This operation then, which made an epoch not only in the treatment of fibroids, but in surgery, must be relegated to the rear by the very forces of surgical advance which it did so much to create Its rival is hysterectomy, and so successfully is hysterectomy standing the test that one can scarcely find justification for the operation of removal of the appendages

When a laparotomy is decided upon at all for these cases, it is difficult to give one good reason why a clean sweep should not be made and a hysterectomy accomplished When a tumor is large and the broad ligaments consequently spread, a thorough removal of the appendages is more difficult than a hysterectomy When the tumor is small the patient is ordinarily in prime condition, and while a hysterectomy is a little more difficult than the appendage operation, no one can be justified in leaving behind a useless diseased uterus, in order to save a few minutes' time in an operation If the appendages are diseased as a result of infection, they should be carefully enucleated, and no matter how long it may consume (unless the life of the patient is positively to be endangered because of increased time required for a hysterectomy) the latter operation is imperatively demanded because of the certainty of infection of the uterus This leaves the operation of removal of the appendages one which should be reserved as a makeshift, when for some good reason after the abdomen has been opened, the operator finds he has underestimated his patient's strength to tolerate a hysterectomy Dr Byron Robinson, of Chicago who finds it difficult to shake off entirely the teaching of the Birmingham sage, still opens the abdomen with the deliberate intention of removing the appendages for fibroids, but supplements that operation by tying the broad ligament, including the uterine artery, as it ascends along the side of the uterus By thus applying my operation from above, he hopes and with reason, I think, to reduce the 8 per cent of bleeders which follow the old Tait operation This procedure increases the time of the Tait operation, and still leaves the uterus It is one step in advance, but still a makeshift, and one more halting place at which the beginner and the timid may in times of discouragement close up and save his self-respect

VAGINAL LIGATION OF THE BROAD LIGAMENT

This operation which was devised by me for the treatment of fibroids is one which does not require a laparotomy It is a minor operation in every sense of the word except in its execution It consists as many of you know, in ligating from the vagina more or less of the base of the broad ligament of either side of the fibroid uteri The vagina is first incised at its vault to the right and left of the cervix, at right angles to the base of the broad ligaments The contents of the broad ligament are separated from the bladder in front and from the peritoneum behind, it is then ligated *en masse* with either a single or a double ligature of silk, kangaroo tendon or chromicized catgut, sufficiently deep and comprehensive to include the main channel of the uterine artery and any anomalous branches of that artery, and also all the nerve supply which finds its way to the uterus by this route In exceptional cases the ligatures may be carried sufficiently high on one side so as to include the ovarian artery The ligatures are cut short and buried by closing the vaginal mucous membrane by a running stitch of fine catgut

The objects of this operation are to check uterine hemorrhage, to cause atrophy of the uterine tumor by depriving it of blood nourishment, to influence a decrease of the tumor by interfering with its nerve supply

Here we have a real minor operative procedure for the treatment of uterine fibroids It has arrived on the scene of action at the wrong time to make itself very welcome Instead of giving us a certainty, it gives one more possible relief, one more hesitating point Its claims are so rational, however, and it has the so important advantage of being but a minor operation, that it will undoubtedly become a method of treatment of annoying prominence to the uncompromising radical of the future

This operation may be performed with advantage in all incipient fibroids in which the operation of hysterectomy will not be accepted by the patient and a minor operation will be accepted It may be performed in all hemorrhagic cases, when the patient has been so reduced by hemorrhage that it is considered unsafe to submit her to a hysterectomy It may be performed in cases of advanced kidney and heart difficulties in rapidly growing or hemorrhagic fibroids where a prolonged operation would not be advisable It may be employed in any case as a direct and permanent curative means, with the understanding that the operation is still on trial and that the remote results may not be of such a gratifying nature as has been the case with the immediate results in the majority of cases already reported From a rational standpoint as a treatment for fibroids, it should replace the operation of removal of the appendages entirely It should not, however, from our present light on the subject, ever be substituted for the certain hysterectomy, when in the opinion of an expert laparotomist the latter is reasonably sure of success

The operation is not applicable to enormous interstitial fibroids (which draw the cervix high into the pelvis), in suppurating fibroids, or in fibroids complicated with diseased appendages

TREATMENT OF STUMP IN ABDOMINAL HYSTERECTOMIES

A subject is this, the discussion of which has been long and is not yet ended, a subject, however, which has been discussed with far more amiability than was formerly that other one,of how shall we treat the pedicle in ovariotomy The question of whether the ovariotomy pedicle shall be intra- or extraperitoneally treated is no longer a mooted point in surgery Two or three short years ago the question of treatment of hysterectomy pedicles seemed to be as definitely fixed on this one point,as does the ovariotomy pedicle seem to be to-day At that time surgery demanded that the pedicle of a tumor,the tissue of which was uterine structure, should have an extraperitoneal fixation To be sure, we were never quite satisfied with that not altogether inelegant and incongruous disposition of the hysterectomy stump The points of distress were its immovability, its displacement and its exposure It seemed, however, inevitable that we should submit to these objections in order to obtain hemostasis Baer, however, in his simple device of ligating the uterine arteries before they reach the uterus, has rendered the hysterectomy stump bloodless, so that it can now be dropped as safely, and as free from unnatural fixation, displacement and exposure as can the ovariotomy pedicle, or it can with perfect impunity be removed entirely And with this decided advance, hysterectomy has reached the point where its sequela are as little dreaded as the operation itself, and the operation is as safe as is ovariotomy

I believe that extraperitoneal fixation of the pedicle in hysterectomies as a routine practice is no longer justifiable That extraperitoneal fixation may in rare cases be a justifiable procedure I will grant I have already mentioned what I consider the objections are to extraperitoneal methods, viz , immovability of the pedicle, displacement of the pedicle and exposure of the pedicle to external infection Byford's vaginal fixation overcomes the first two objections as well as any method of external fixation But the inventor of that method after making a brilliant record with it, has discontinued it as a routine in favor of the intra-abdominal

Senn's new cuff method which, while it keeps the substance of the pedicle in the pelvis, fixes it, though distantly, through the intervention of the cuff to the lower angle of the peritoneal wound, and exposes it through this tube of peritoneal tissue to possible surface or external infection I am sure, notwithstanding its brilliant parentage, that it can never be generally adopted as a routine practice, that it will appear in history as one of the curious methods, the outcome of the evolution strain for a perfect hysterectomy

There are yet a few operators whom we have learned to respect profoundly, who still hold to the fixation of the pedicle in the lower end of the abdominal incision, who still employ elastic ligatures, serre-nœud, and the accompanying paraphernalia as a routine method of practice With the results of such men's practice we can not find fault Some of them are masters and therefore their results would be of the best, no matter what method they adopted. The question of the relative practicability and permanent effectiveness of any operation must be tested by the results obtained in the hands of the average surgeon It is not enough that some immortal can make a brilliant record with his abdominal fixation That he can accurately adopt and manufacture a pedicle the length necessary to obviate undue tension, displacement or bladder squeezing, that he can so treat his constricted stump that it will never become infected, that he can therefore prevent in every case, extension of suppuration to broad ligament sutures, and thus obviate interminable fistulous tracts, that he can prevent in every case, an ugly depressed abdominal scar, all of this is not enough It is necessary that the operation of the future shall be one in which there is the minimum disturbance of normal relations between the organs of the pelvis and the remaining pedicle, in which there is the minimum loss of normal mobility in the remaining organs, in which the risk of secondary hemorrhage from pedicle or broad ligament is reduced to a minimum, in which the pedicle when once disposed of is out of reach of external infection as far as it is possible to get it, an operation which is practically finished when the abdominal incision is closed (instead of one which submits the patient and the physicians to an operative procedure which must last under the most favorable circumstances from ten to twenty days before the patient is finally severed from her tumor and detached from the mechanism of the surgeon), finally, the routine operation of the future must be one of minimum simplicity, easy of execution, and one which can be accomplished in the shortest time consistent with the above requisites

Such an operation, I believe we have within our reach in employing the Baer method of ligating the blood supply of the cervix and lower portion of the uterus before it enters the tissue of that organ, in other words, ligation of the uterine artery and branches After this simple procedure has been enacted, it matters little whether the stump is removed entirely, left buried, or projecting into the abdominal cavity

KIDNEYS

The failure to recognize obscure kidney diseases in patients before submitting them to a severe operation has been the cause of many avoidable deaths We should not only recognize kidney difficulties in every case, but we should also know when a case is laboring under some form of kidney trouble, if that stage has been reached beyond which it is safe to proceed

It is not enough that the urine in any given case is approximately of normal quantity, of approximate normal specific gravity, and that it gives negative results in tests for albumin and sugar It is necessary to learn the history of the case, to estimate the specific gravity in a twenty-four hour specimen, to ascertain the amount of urea for twenty-four hours, and to supplement this with a microscopic examination, thorough and complete. In diabetes we should not operate. In interstitial nephritis, when the disease is not far advanced, an operation may be risked with proper preparatory treatment. These latter cases are the very ones which from their great difficulty of diagnosis are often neglected and consequently disaster results.

The importance of this subject must be my excuse for entering into primary details. The following summarizes the signs of chronic interstitial nephritis: lowered specific gravity of urine, patient arising at night to void urine (when there are no bladder or urethral diseases to give rise to such a procedure), an enlarged heart with accentuated second sound, a tense pulse, and diminished urea. Albumin is frequently absent. The diagnosis is doubly sure when hyalin casts are formed.

I scrutinize all of my patients in all these points. If the foregoing state of affairs exists to a marked degree, I refuse to operate; if, however, with the above symptoms, I find a normal quantity of urine, which does not show a reduced specific gravity under 1010 to 1014, and where the amount of urea does not sink lower than six or seven grains to the ounce, and the patient is well preserved generally without advanced heart disease, I am confident that I can operate on them with safety, if I can secure proper preparation.

I prepare these patients by first placing them on an exclusive farinaceous diet, with milk and fruit, an indefinite number of days before the operation. A week or ten days before the operation she is put on a diuretic with instructions to drink large quantities of water. The object is to increase the daily quantity of urine to 60 to 100 ounces, in order to thoroughly flush the kidneys and rid the patient of dangerous accumulations. With 80 to 100 ounces of urine flowing for several days, with the patient living on a non nitrogenous diet, with the urea in improved proportions, considering the diet, I feel safe to risk an operation.

Dr Charles W Purdy, who has had an enormous experience in watching the behavior of kidney diseases under operations, says in reference to chronic parenchymatous nephritis: "I see no reason why these cases, if unaccompanied with dropsy, may not be operated upon if carefully selected."

ABDOMINAL DRAINAGE

There are now but faint and unimportant protests against the use of drainage in abdominal surgery when certain definite conditions exist. These protests are so few and so unimportant that the question of whether we should ever drain can no longer be considered mooted. The questions, how and when shall we drain, are points upon which there is still some discussion.

Drainage in abdominal surgery has definite indications to meet: 1, the removal of blood, the consequence of venous hemorrhage from points which have been the seat of adhesions; 2, the removal of fluids from ruptured cysts or from sponges, when the toilet of the operation has entirely failed to do so; 3, the removal of septic matter from the abdominal cavity.

The removal of blood from an abdominal cavity where there are numerous oozing surfaces is necessary, because it is the safest and quickest method of stopping the hemorrhage. We all know that many women have bled to death into their own bellies after operations where extensive adhesions have been separated, which might have been saved if some form of drainage had been adopted which would have removed the fluid before it could accumulate. Constant removal of the blood leaves the bleeding surface dry, and coagulations form at the vessels' mouths. If the blood is allowed to remain, the coagulum is dissolved in the accumulated fluid and the hemorrhage continues.

It is necessary to have a drain which will remove all the fluids, blood and otherwise, from the abdominal cavity for two other reasons: 1, because this fluid produces peritoneal irritation even though it does not become septic. The patient will exhibit this by a rapid and weak pulse for several days, while the weak and partially paralyzed peritoneum is accomplishing the removal of the fluids by absorption; 2, this accumulated fluid is the richest culture medium in the world surrounded by one of the most perfect incubators, and is therefore liable to develop any pathogenic material which may have in any manner come in contact with it.

Thus one who does not employ drainage at all in abdominal surgery, must select carefully his cases, so carefully indeed that he would discard about all which most required his assistance, or he must expect an unnecessary mortality. If he enucleates tumors, he must have large extensive oozing surfaces. If he attempts to check every particle of that oozing by ligation, cauterizing or other means, before closing the abdomen, he will be obliged to expose every portion of it not only, but he must carefully and successfully manipulate every portion of these surfaces wherever located in the abdomen. As these surfaces are frequently intestinal, these delicate and resentful organs, too, must come in for their share of manipulation. Much time (time of inestimable value) has been wasted. One can never be certain that all bleeding points have been secured, the delicate intestines have received unnecessary manipulations which weaken their tonicity, and finally the abdomen must be closed with no absolute monitor or guard, and no means of relief, but secondary laparotomy, if intuition should indicate accumulating blood. So, too, the same arguments apply to spilling pus in the abdominal cavity, contents of cysts or *débris* from any source. Excessive exposure of peritoneal surfaces, excessive manipulating, excessive sponging, excessive washing, only, will accomplish its removal and we can not be quite sure that the peritoneum will consent or be able to take care of that which may occasionally be overlooked.

In my opinion, one should drain always where there has been separations of adhesions, the oozing from which is sufficient to accumulate in any perceptible quantity in the dependent portions of the peritoneal cavity by the time one is ready to close the abdominal incision, as indicated by exhausting a glass drainage tube which has been placed in the cavity for that purpose. One should drain also when accidentally or otherwise, contents of cysts have leaked or spilled into the abdominal cavity when there is any doubt of its complete removal. Finally, in my opinion, one should always drain after any operation has been performed which calls for extensive flushing of the abdomen.

On the other hand, I do not consider it necessary to drain, if a perfectly dry condition of the peritoneal cavity is obtained (and there is no source from which fluids can accumulate) even if there has been during the operation a removal of septic material In other words, I have great faith in the resisting or antiseptic power of the peritoneum, so long as it is in its normal state of dryness It is only when the peritoneum, in addition to its normal work, is put to the strain of caring for little puddles of culture media which a careless operator has neglected to provide means of removing from its folds, that I am afraid of peritoneal failure, septic development and disaster

I believe that the glass drainage with the suction pump is the safest and most effectual drain and a form which is almost invariably applicable It accomplishes promptly and definitely the removal of all fluids from the peritoneum as frequently as it may seem necessary, and in a manner so that their amount may be accurately estimated While the gauze drain may be used with advantage in other cavities, I must protest against it as a routine drain for the peritoneal cavity For bleeding surfaces following enucleation, except in extraordinary cases (such as I have seen but few times) it can not compare with glass drainage and the pump When it is employed I can not but feel that it acts more as a tampon or a dam than as a drain With it, there is no way of knowing accurately how much work it is accomplishing, or how much it is failing to accomplish, or how necessary its employment may have been

The glass drain properly cared for never does harm, even if its use in any given case is afterward found to have been unnecessary Fistulæ rarely follows its use, and when they occasionally do it is in desperate cases where an operation without it would have been impossible

INTRA-ABDOMINAL SUTURES

Silk is an ideal suture for intra abdominal work, if it is properly sterilized before using, and if it never becomes infected after it has been placed The fact that silk if once infected wherever buried, will never cease giving trouble until it has been removed either by surgery or by the very suppurating processes which it maintains, makes it a questionable ligature under any circumstances in abdominal surgery One may be quite positive that his aseptic sutures are buried in aseptic tissues He can never be positive that some septic process may not reach those ligatures during convalescence, or long months or years after convalescence, a septic process which finds exit somewhere in a long fistulous canal and which would heal spontaneously after discharge if it were not for a non-absorbable septic foreign substance at its bottom The same argument holds good in regard to any form of non-absorbable suture material as a buried suture

If, on the other hand, an antiseptic absorbable ligature is buried in aseptic tissues (whose life is of sufficient length to effectually accomplish its mission) it disappears promptly and is soon out of the way of septic processes which by accident may reach its vicinity, or if it should become septic before absorption is completed, the completion of the absorption will eradicate what would otherwise become a fixed nidus of infection, and the normal reparative processes of the tissues would be left unhampered

Catgut and kangaroo tendon are the two forms of absorbable sutures which have been most employed Kangaroo tendon is scarce, difficult to prepare, and consequently expensive I have not employed it and therefore can not practically discuss it Catgut until quite recently has been looked upon with suspicion Even when with great care it had been successfully sterilized, so that no cultures resulted in its test, it still formed a nidus for suppuration in otherwise practically aseptic tissues, because as was discovered later, of its possessing qualities of a superlative culture medium Then it was necessary to render it not only aseptic, but to saturate its substance with a harmless antiseptic which would not affect the integrity of the suture or poison the tissues of the patient In seeking such an antiseptic, it was also desirable that the antiseptic or the process of preparing the gut would increase the life of the suture Experiments and practice have been able to demonstrate that catgut sterilized by heat and afterward treated by either chromic acid or methyl blue will remain antiseptic and also possess life of sufficient length for most ordinary intra abdominal work

If these two forms of suture, on continuous trial carry out the promise that they have already given we will possess an economical, antiseptic, absorbable ligature for buried and intra abdominal work, which will with great certainty do away with one of our most annoying sequela in that line of work

Thus, gentlemen, in the half hour allotted to me I have frankly presented my present surgical status I am aware that this is but one "stock-taking" point in my career I am aware that in one short year from now, much if not all of this may be old I would mistake my audience, and certainly the progress of surgical gynecology, if I did not realize that points in my present declaration have already become ancient history to some of you What was the truth in the light of our progress one year ago is not necessarily so now

The progress of modern surgery is like the onward march of a mighty army It waits for no one The weak, the stragglers and the non-progressive are left behind The strong, the alert, the industrious, help to swell the crowded ranks and each doing his particular work conscientiously insures a wholesome irresistible advance of the whole

Therefore let us not straggle, although we may not be in at the ultimate triumph If we can not fill commanding positions, let us at least do our best in the front of the ranks

So in the ranks of surgery let us become idealists But constantly compare our ideals with those of others that they may not deteriorate Let us be enthusiastic, but temper our enthusiasm with tried facts Let us have knowledge of the works of others, but prove that knowledge by personal experimental labor Let us be industrious, but not at the expense of doing unjustifiable work Finally, let us cultivate ambition, but a laudable ambition, which has for its object the development of our art to a science of transcendent heights of usefulness

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Physiology in the Public Schools —The following letter was received by the principal of one of our schools the other day, from a parent whose daughter is a member of the class in physiology "Dear Miss ——, I don't want you to learn my daughter any more about her insides It ain't decent and it turns her against her vituals Respectfully, ——"

ORIGINAL ARTICLES

A METHOD OF SUPRAPUBIC HYSTERECTOMY FOR GOOD OPERATORS AND BAD FIBROIDS

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7 10 1895

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The lines of sound surgical principles converge toward perfection of technique in operating and the ideal operation The proximity to the ideality of an operation is in direct ratio to the simplicity of its technique and the results obtained Ideal results in suprapubic hysterectomy are best secured by ideal operators with ideal surroundings, upon ideal patients with symmetrically formed pear-shaped tumors

I serve notice, in this presence, on those engaged in discussing the technique of hysterectomy that they can not have the last word until their means and methods shall deal with fibroid tumors, regardless of their morphology or pathologic condition, nor until the average operator shall advise the removal of fibroids as unhesitatingly as he does an ovarian cyst

Despite the efforts of some to name a distinct method of operating because a flap is made here, or a ligature placed there, the problems of suprapubic hysterectomy are rapidly nearing their solution Those engaged in the work are divided into but two classes 1, those who have been and are yet satisfied with forming a pedicle and fixing the same in the abdominal wound , and 2, those who are not satisfied that this method was the best that could be devised, and have been earnestly endeavoring to reach some method which shall disregard the morphology of tumor, of broad ligaments, and the location of uterine arteries

Those workers who have been wedded to the serre-nœud in abdominal fixation method have not emphasized, as they should have done, the important fact that the serre nœud is quite as much for the adjustment of tissues as to control hemorrhage When the broad ligaments are properly tied off, the main source of hemorrhage (in an average case) is shut off On the other hand, the teaching that the uterine artery can always[1] be found in the broad ligaments and tied in a definite way, retards progress, and has in the past and will in the future be the means of sacrificing lives in the hands of beginners and those not familiar with the anomalies of arterial distributions, morphologic changes and pathologic conditions found in and about the fibroid uterus

Anatomy, from the book of nature and not from the paper books, is the keystone of the arch upon which the principles of surgical progression shall ever rest, and is nowhere more important than in hysterectomy Some seven text books which I have examined on anatomy, state that the spiral or curling branches given off from the uterine arteries really penetrate the tissues of the uterus including its cervix With this idea of penetrating arteries, surgeons have many times ligated and severed a single uterine artery in different places because of its zigzag course at the side of the uterus, the operator thinking he had secured a distinct vessel each time I have peeled off the uterine arteries from the sides of the uterus leaving them in the pelvis of the woman, and cut off the cervix with little or no hemorrhage This was for the purpose of proving how few ligatures could be used It is well known to every gynecic surgeon that a nodular mass in a fibroid uterus can be peeled out of its capsule without ligating a single artery What I have stated regarding the nourishment of the nodule by its network of capillaries and not by the penetration (for surgical purposes), holds true with reference to a uterus disorganized by fibroid tumor or tumors, no matter how large or how small—not only the fibroid uterus, but the normal uterus as well—not only the uterus but its entire cervix down to the external os The uterine tissue may be penetrated by small capillaries, but I am convinced that it is not penetrated by arteries worth considering (as such) surgically

This anatomic fact being established, the operator who favors leaving an extraperitoneal but intrapelvic wound, having temporarily clamped the broad ligaments, proceeds without fear of hemorrhage from the uterus or its neck, to peel off the anterior and posterior flaps, and enucleate as much or as little of the cervix as he desires, keeping between uterine artery and uterus He who expects to use the serre-nœud, having secured the broad ligaments with their ovarian arteries, will also peel down the tissues around the cervix, if the same be large, until he reaches a point where it is smaller, to the end that the same may be raised up to the abdominal wound without undue tension on the pelvic tissues So what has been done on anatomic lines is really of great advantage, whether we favor uniting our pelvic with our abdominal wound, using the serre nœud, or whether we will leave an extraperitoneal but intrapelvic wound On several occasions, when I have presented the subject of hysterectomy, operators have attempted to prove that a pedicle could be made and fixed in the abdomen in every case Some have even gone so far as to say they would not attempt in any case to follow any other method I have shown tumors and photographs of cases where it seemed to me that abdominal fixation of the pedicle would have been very difficult if not impossible Some three times in

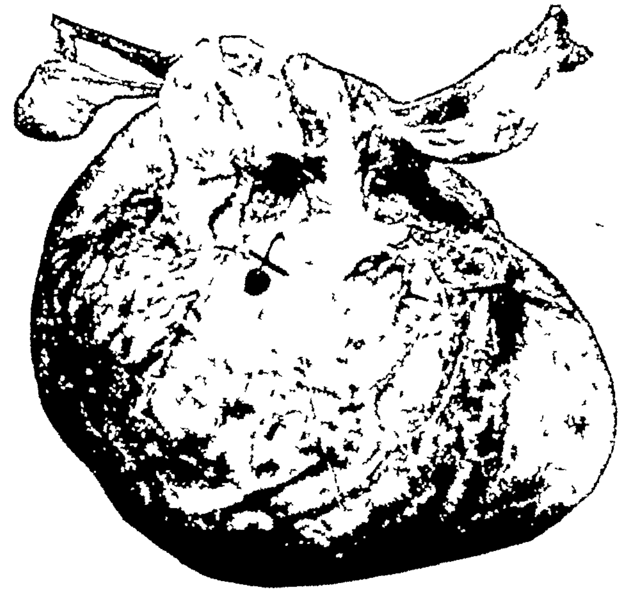

FIGURE 1—Fifteen pound tumor growing from anterior cervix

the past year I have been able to remove a fibroid uterus with malignant degeneration of the endometrium, extending well out into the vagina I will report one of the cases

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[1] Dr Etheridge of Chicago, cuts a slab off the sides of the uterus before clamping broad ligaments

Mrs H, aged 51, was referred by Drs Murry and Baird, of Albany, Ind, the former believing that for several years the patient had had her pelvis and lower abdomen filled with a fibroid tumor, the latter, by vaginal examination, diagnosticating cancer of the cervix and endometrium Both were correct in their diagnoses The operation was made in the following manner an incision made through the vaginal mucosa, was carried around the cervix, extending a half inch from any malignant ulceration Iodoform gauze was packed into this incision The abdomen was then opened and the tumor (nearly as large as the human head) was lifted out of the abdomen The broad ligaments were seized and temporarily clamped as shown with these forceps Having peeled down the broad ligaments and made anterior and posterior flaps, we then secured the broad ligaments with strong kangaroo tendons, cutting away the forceps Then passing my staff up the vagina behind the cervix, with this gouge we soon found our way posteriorly down on to the staff and continued our enucleation right and left, (leaving anterior surface near bladder to the last) until the entire mass had been lifted out of the pelvis We then brought the serous lining of the pelvis over the stumps of the broad ligament, and packing some gauze down into the vagina we made complete sero-serous approximation of the entire pelvic wound The patient made a very satisfactory recovery

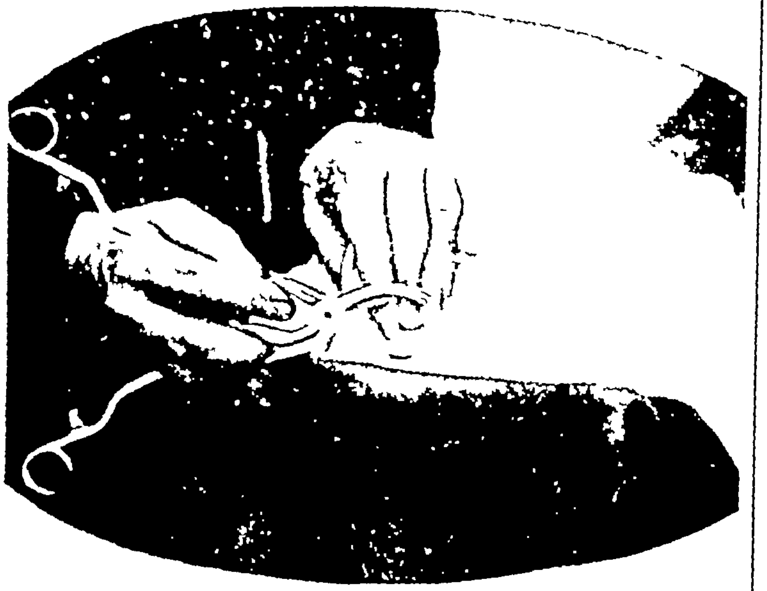

FIGURE 2

I report this case in part, naming the attending physicians, to the end that I may at least be credited with one operation where abdominal fixation with the serre nœud could not be considered, and where leaving a piece of the cervix would have rendered the operation positively useless I have found a number of such cases If other operators have not, a time will come, if they get cases enough, when they will

I would submit the following propositions for discussion

1 There are cases where total extirpation is the only operation possible

2 Ventral and pelvic extraperitoneal fixation being the only two methods worthy of consideration in average cases, which can be done in the least time

3 Which operation gives us the greatest immunity from sepsis, (*a*), in abdominal wound, (*b*), in pelvic wound

4 And here let me add, it will require the lapse of time and personal observation in a large number of cases before I shall reach my final conclusions

Does ventral fixation give us the greatest amount of assurance against vaginal prolapsus, cystocele and rectocele? In pelvic fixation I have been bringing the stumps of the broad ligaments well down, stitching them to the vagina, with a view of holding that tube up as one's suspenders hold up their trousers, but I repeat, sufficient time has not elapsed, nor have I been able to observe a sufficient number of cases, only a little over two hundred, to convince me that the remaining pelvic organs will have sufficient support with this fixation So far as my observations have led me to judge, where an atom of cervix is left, vaginal prolapsus is greater than where it is totally removed and vagina stitched to ligaments, the piece of cervix seems to push down, rather than act as a keystone to hold up I can indorse no method as being better than another, until time, which proves all things and reveals the future with unerring certainty, shall have enabled me to make observation in a large number of cases where hysterectomy has been made both supra and infrapubic, proving the merits and demerits of different methods

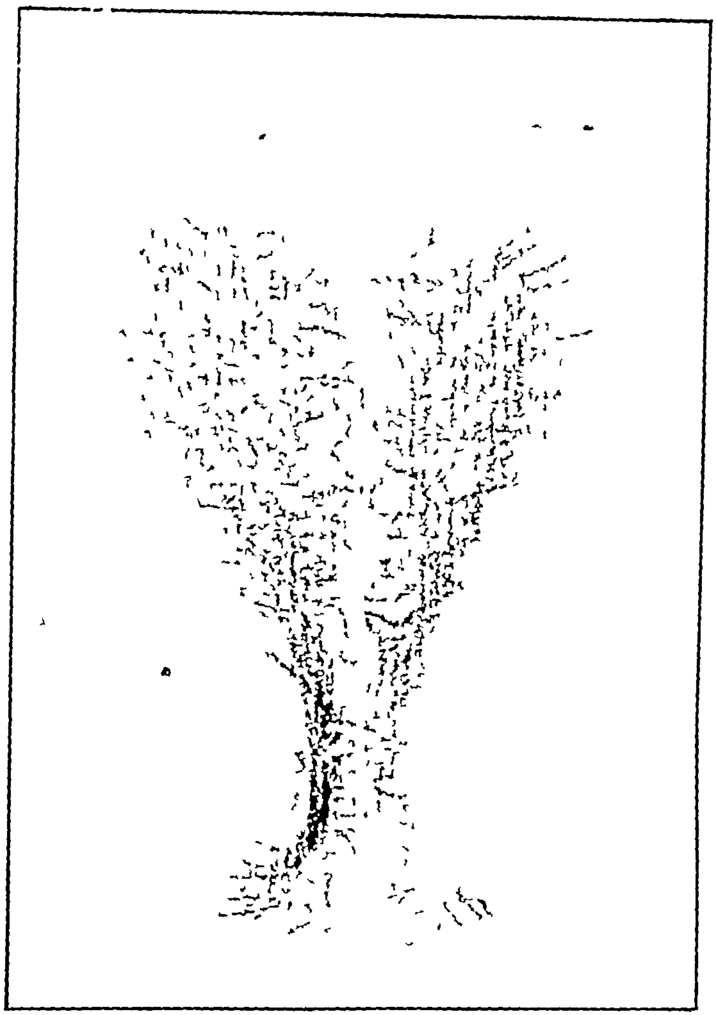

FIGURE 3

Hysterectomy will always demand the highest surgical skill The head to plan and meet the surprises which spring on us during an operation, the eye to see quickly the exact constriction of every ligature and adjustment of every suture, the thinking brain and facile finger, the two cooperating, and backed by an indomitable will to speedily and skillfully perfect the adjustment of the last suture with the same precision as the first, demand a combination of qualifications found only in the natural-born surgeon—

TECHNIQUE OF NEW METHOD OF ABDOMINAL HYSTERECTOMY

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore Md, May 7-10 1895

BY N SENN, M D, PH D, LL D
CHICAGO

The dangers attending the abdominal removal of the myomatous uterus are shock, hemorrhage, functional injury to important organs near the uterus, and infection The operation that I am about to describe to you has in view, as far as can be done by an improvement of technique, the removal of these sources of danger

As you all know, in abdominal operations the exposure of the organs to unnecessary handling and the loss of heat they sustain are most potent agents in the production of shock, hence in the removal of myofibroma of the uterus, the abdominal cavity should be exposed for as short a time as possible It is therefore the particular aim of this operation to secure access to the myomatous uterus in as short a time as possible and with as little exposure of the abdominal organs, hence, after opening the abdomen in the median line in the usual manner, tying off the broad ligaments on both sides by two sutures, the uterus is brought well forward into the wound and then on a level with the section through the broad ligaments, the peritoneum is divided from one side to the other, and the flap is reflected and sewed to the parietal peritoneum, when the opposite side of the uterus is dealt with in a similar manner In making such a peritoneal cuff it is absolutely necessary to cut only through the peritoneum, and not through the large subperitoneal vessels in order to prevent hemorrhage In making the cuff, the dissecting forceps is an exceedingly useful instrument, the process of deperitonization can be carried on readily by the use of the hand or a blunt instrument As soon as the cuff has been sewed to the lower angle of the wound, the balance of the abdominal incision is closed, we then have the uterus with the tumor or tumors outside of the peritoneum

I call this an extra peritoneal operation Rendering the uterus extra peritoneal is a matter, in the majority of cases, of only a few minutes, when the balance of the operation can be performed at leisure The later steps of the operation are not attended by immediate causes which expose the patient to the risks of shock Having closed the balance of the wound, the uterus is then amputated at the desired point Usually in cases of single or multiple myofibroma, the cervix is intact If the cervix is affected the entire uterus can be removed For the purpose of preventing hemorrhage during the amputation of the uterus, I then proceed to ligate the uterine arteries on each side, which is done by applying an indirect ligature It is unnecessary to take time in isolating the uterine arteries, we can ligate and tie them very accurately with needle armed with medium-sized silk ligature The amputation is then made by making an incision obliquely so as to make a cone of the stump of the uterus and a corresponding depression of the parts left behind Very little hemorrhage attends this part of the operation, provided the arteries have been tied on both sides, at any rate, no additional ligatures are ever required

After the uterus has been removed, I then excise the mucous membrane of the uterine canal and close the wound with a row of absorbable sutures, chromicized catgut For the purpose of arresting parenchymatous oozing the cut surfaces are then closely united by two additional rows of buried sutures, there is no need of elastic constriction, and nothing to induce subsequent necrosis of tissue We leave the wound in a condition compatible for healing with primary union If hemorrhage occurs at any time, the amputated cervix remains accessible for twenty-four or forty-eight hours You perceive that so far the object we have in view is to expose the peritoneal cavity and its contents as short a time as possible, to control hemorrhage systematically and to prevent functional injury to organs near the uterus—the bladder, ureters and intestines The organ is simply removed sub-peritoneally, leaving behind a peritoneal cuff If the operator is sufficiently careful to resort to the necessary antiseptic precautions, the only source of infection during the operation will be the hands, the instruments, the sponge There is no possibility of post-operative infection of the peritoneal cavity The wound is usually two or three inches in length, its floor is packed with iodoform gauze, and two secondary sutures are at once inserted Twenty-four or forty eight hours later the gauze is removed Usually a little parenchymatous oozing takes place, sufficient to saturate the inner part of the dressings The wound is then closed There is at no time any tension upon the stump If infection should occur after the operation, it is limited to the wound outside of the peritoneal cavity

Some of you may raise an objection to leaving so much of the abdominal incision unsutured immediately after the operation and may entertain the unfounded idea that ventral hernia will follow, but if you remember what you observe almost daily, that an aseptic granulating wound, when coaptated by suturing, heals as readily and as promptly as a recent wound, you will see that there can be no objection to the temporary packing of the lower angle of the wound until the time has elapsed that we no longer need to fear the two greatest dangers of laparo-hysterectomy—hemorrhage and infection

Now, in bringing this new operative procedure to the attention of the profession the crucial test must be furnished by its results Of thirty-three or thirty-five laparo-hysterectomies in unselected cases, not only every one of the patients recovered, but I have failed to observe in a single instance any untoward results I believe, therefore, the Section will excuse me in pressing the merits of this method in dealing with such a formidable condition as myofibroma of the uterus, and, at any rate, I ask for this operative procedure a fair trial at your hands

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Insecticide for Tree pests —The year 1895 has been marked in some parts of the United States with an unusual prevalence of insects destructive to trees The *Pharmaceutical Era* offers the following combination, which physicians may be glad to use now or put away for use next spring

Corrosive sublimate	gm 32
Soft soap	litres 4,100
Alcohol or wood spirit	cc 500
Water, q s	

Dissolve the corrosive sublimate in the alcohol or spirit and stir it into the soft soap, add water enough to make a stiff paint and apply to the base of tree with a brush This is the best remedy against the borers of the apple and also for the woolly louse

THE PRESENT STATUS OF THE ELECTRICAL TREATMENT OF FIBROIDS

Read in the Section on Obstetrics and Diseases of Women, at the Forty Sixth Annual Meeting of the American Medical Association,
at Baltimore, Md , May 7 10, 1895

BY A LAPTHORN SMITH B A, M D
MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY, PRESIDENT OF THE AMERICAN ELECTRO THERAPEUTIC ASSOCIATION
MONTREAL, CANADA

At the full flow of the tide of the most successful surgery the world has ever known, one must possess a good deal of courage of his convictions to rise in the presence of such a distinguished audience as this, to ever discuss, far less to advocate the treatment of tumors, even the most benign, by any other method than the surgeon's knife

Appearing on the program of this meeting, surrounded as this paper and its author are, by papers and surgeons advocating every kind of surgical treatment, from tying the uterine arteries to removing nearly all the pelvic contents, my position is a peculiarly difficult one, the more especially as I have been trained as a surgeon and now occupy a position as surgeon in several hospitals where I am often compelled by circumstances to treat fibroids by surgical procedures

It is only fair that I should say at the outset that I did not choose this topic for my discourse, it was assigned to me by our esteemed chairman, who, in order to preserve the high reputation for impartiality which has been possessed to an eminent degree by the chairmen of this Section of the Association in the past, no doubt wished that justice should be done to all methods of treatment at present employed So strong is my own personal taste for surgery, especially of the abdomen, that I might have been tempted to disobey the chairman's command but for one reason, which was that as I reflected upon my work during the past seven years there passed before me the images of some fifty women whom I had treated for fibroids by electricity First, as they appeared when I saw them with faces anxious with pain and blanched with hemorrhage, and then after their pain had been relieved and their bleeding had been stopped by galvanism and their cheeks had resumed a rosy hue, these fifty women's faces encourage me to do justice, though the heavens may fall, to the treatment which has cured them

Then there pass before me the dying faces of *ten* women who were treated by total extirpation, at two of which operations I was the executioner, at six of which I was first or second assistant, and at two of which I was only a spectator

True the majority of the ten operations were performed in the pre-antiseptic days, though by a great master in this department of our art, but four of them were performed within the last few years under the most rigorous aseptic precautions by men who have a low mortality in general for abdominal surgery

The memory of these fifty women who have been cured by electricity, many of whom I could find, if required, and many of whom to this day stop me in the street to thank me and it for their rosy cheeks, and the memory of those ten women who are now no more, all tell me that I would be a traitor to the cause of truth if I remained silent, not only out of season, [illegible] when it most needed to be

True, I can quiet my conscience when circumstances compel me to operate, by the reflection that one woman died while under electrical treatment, not through electricity but through an error of diagnosis for mistaking a tense impacted liquid tumor for a fibroid, which would not have been made if the abdomen had been opened, or, in other words, if the treatment had been surgical instead of electrical This is the one and only case in which as far as my experience goes, I have ever had to seriously regret the use of electricity

I can still further soothe my conscience when I am compelled to operate, by remembering that I have operated on ten women, seven by abdominal hysterectomy, treating the stump by leaving it transfixed at the lower angle of the incision, and on three by removal of the appendages, tying the ovarian arteries low down, and several others treated in the latter manner, at which I was first assistant, all of whom recovered and are now in good health

When I visit the City of Brotherly Love where the surgeons have declared war to the knife upon the electrode, I am often placed in an awkward predicament When I tell my friend, Dr Joseph Price, that I am going to spend a few hours at the electrical clinic with Dr Massey, he is surprised that a man of my intelligence can waste his time in such fiddle faddling nonsense, and it is useless for me to assure him that I can show him many women in Canada, from Manitoba in the west to New Brunswick in the east, who are pictures of health, and who have been cured by electricity

On the other hand, when I tell my friend, Dr. Massey, that I am going to spend the morning with Dr Joseph Price extirpating fibroids, he looks with pity on my bloodthirsty taste and misguided energy.

In vain I tell him life is too short to treat all my fibroid cases by such means

In this somewhat peculiar position which I occupy, I have one consolation, and that is or at least I hope that it will be so, that the conclusions which I shall presently lay before you, are those of one who is entirely unbiased and non-partisan, and are consequently to be accepted as far as they go, in good faith

My own opinion on the present status of electricity in the treatment of fibroids is fully made up, and I shall now endeavor to lay it plainly and honestly before you

During the last year especially, although it has been growing gradually for several years, the conclusion has become evident that electricity is not suitable for every kind of case nor for every kind of doctor

But it is as true to day, as it ever was, that for the cure of pain in, and bleeding from, the uterus, the application of the positive pole of the galvanic current properly applied and of sufficient strength to the uterine mucous membrane, is in the majority of cases effective The percentage of successes is greatest in those cases in which the fibroid growth is interstitial, not quite so great in the cases of submucus growths, although in several of these cases a few applications have been followed by the expulsion of the tumor from the uterine cavity The earlier the cases come under treatment the more surely they are cured, many patients with small interstitial tumors in the anterior wall having been completely cured by [illegible] still more under the care of others So that the plea for the early treatment of fibroid tumors by electricity is quite as just a one as is the early plea for operative treatment. Indeed, it is even more so. For while we can truthfully say that the electrical treatment, when undertaken early and with a correct diagnosis is at the present day entirely devoid of danger, no one can truthfully say the same of the treatment by operation. In fact, I am sorry to say that no one knows what is the death rate of the latter treatment. Three of the ten deaths which I have above mentioned have never been reported, and six of them were only reported at my urgent solicitation.

May there not be many other similar cases? When a women comes to a doctor for menorrhagia and he discovers a small fibroid, is he to urge her to submit to an operation, when he knows with the greatest skill and care she runs the risk of dying from the operation, and if left alone, the death rate is more than 1 per cent, while with electrical treatment the risk is absolutely nothing?

When she tells me that she will not submit to an operation, shall I assure her that I can do nothing for her, when I carry in my pocket the record of fifty similar or worse cases which have been cured by electricity? Surely, that were dishonest. And yet the temptation to operate, in spite of the danger of surgical and the safety of electrical treatment is very great, too great in some cases for us to resist.

Ours is a busy life, and there is not one of us here who has not often felt that life was far too short to accomplish all the good that we would wish to do, and for the want of a few more hours in the day, much work of value to our fellow beings must go undone. With this feeling strong within us, a poor woman applies at the out-patient department of our hospital with a small interstitial fibroid which has, however, doubled or trebled the bleeding surface of the uterine mucous membrane. We believe that we could cure her by a long and tedious course of treatment with electricity, from ten to fifty applications, if there are no facilities at the hospital, then at our office. If at the hospital, the time required for this case would seriously encroach upon the time allotted to our service there, if at an office there is the same, as well as other objections. And when we have made the sacrifice and cured the woman, what is the reward? Perhaps, but not always, the woman's thanks. Our own feeling of having done well, surely. But when we turn to our brethren, whose esteem is and should be the greatest incentive that we can look for, to good work well and conscientiously performed, what do they say? We have no fresh and bleeding tumor to take to the medical society, (as an Indian waves a white man's scalp), before our admiring brethren as a trophy of our prowess and our skill. I have shown the women over and over again, I have shown their clothing which had to be taken in, as much as seven inches, owing to the decrease in size, the women themselves have offered to state on oath that their bleeding had been arrested, their pain removed, and their general health improved. How were these triumphs of therapeutic skill received? With loud applause, you will say. No, indeed. The praise bestowed upon the exhibitor of even an apparently healthy appendix, the removal of which was followed by the death of the patient, is wild in its enthusiasm, when compared with the manner in which is received the report of a case of cure by electricity. Indeed, a sincere friend and admirer in our society warned me privately that my reputation was injured every time I showed a woman who had been cured by this means, and he urged me to show no more. But I must continue to cure them by that means as far as my time limit and life limit will allow.

How different when we report an operation, whether the patient lives or dies. Everybody seems pleased and praises us in proportion to the danger to which our patient has been exposed. But if she dies there are two at least who must regret that it was performed, the patient and the doctor, and sometimes there are the husband and the little children to be thought about. But how much easier to take the patient into the hospital and in a few days perform hysterectomy which we can do in a quarter of an hour sometimes. It is, as the French say, "*un mauvais quart d'heure*," but it is soon over and the patient's fate is sealed for weal or woe when we have put in the stitch which closes the peritoneal cavity.

After that the house surgeon and nurses take care of her and an average of three minutes a day for the next twenty days is the very most she requires of us. But with the electrical treatment, what with getting the patient ready, carrying out the asepsis of the vagina, and adjusting the apparatus, I have spent as much as one hundred precious hours on a single fibroid case. But the ovaries remained and many of the women are now the happy mothers of children and others are happy wives, capable of having children, though childless.

I have lately asked several well-known men, men of the highest surgical reputation (you would be astonished if I mentioned their names) whether they had employed the electrical treatment with good results and they have assured me that they had, although they have never reported them, and when I asked them what was the principal objection to it, they replied, in confidence, that it took too much of their time. And this I admit is a serious objection to it, but not an insurmountable one. There are two ways in which it may be surmounted, one is by having an assistant whose time is less precious than our own, who has been trained to carry out the treatment with accuracy and care when we prescribe it for the disease which our more experienced touch has diagnosed. And the other, is by having several rooms and a nurse to prepare the patient, including the antiseptic vaginal douche and by devoting two afternoons a week, and having these patients come only at that time as many as six treatments an hour might be administered.

Never before has it been so well demonstrated, as it is to-day, that by the division and subdivision of labor the workmen become more and more expert. It does not surprise me therefore that the best results of the electrical treatment of fibroids are obtained by such men as Apostoli and Massey, who employ this treatment alone. They both obtain results which neither I nor any other operating gynecologist can hope for. In every large city we should encourage some one man to establish an electro-therapeutic clinic, where our poor patients, at least, might obtain the benefit of his skill in electrical technique, after having obtained the benefit of our experienced diagnosis, in time, his reputation would reach the ears of the rich, and he would then have some substantial reward.

The present status of electricity is suffering as did the status of abdominal surgery a few years ago, because it has been tried by men without sufficient experience, and has as a consequence been found wanting The electrical treatment of fibroids requires knowledge of the pelvic contents as well as the electrician's knowledge of the power he is wielding

I must trespass on your time yet a little more while I refer to two points One, a claim which has recently been made by Apostoli for the electrical treatment, which I can hardly indorse, and the other an objection which has been made to it, which I can as heartily deny

Apostoli has discovered that the very failures of electricity can be turned to advantage in the following manner it has been found that in those cases where the electrical treatment has been badly borne and has been followed by febrile reaction, so that the patients have been turned over to the surgeon for operation, the presence of pus tubes and pelvic peritonitis has been discovered Apostoli has pointed out that electricity may be employed as a diagnostic agent for the purpose of detecting diseased appendages

A remarkable instance of this came under my notice a little over a year ago A young woman who had been employed in a restaurant in a New England town, gradually lost her health, with pain and hemorrhage She suffered agony with her periods which came too often and lasted long, so that her face was blanched and haggard There was no difficulty about the diagnosis as the tumor was large, round, symmetrical, in the median line extending up to the umbilicus and could be easily seen and felt, bulging up the abdominal wall Several physicians in the United States, her family physician in Montreal, as well as myself, all agreed that it was a fibroid One of them had tried electricity several times, but always with bad results, and so did I As she was laid up in bed for several days each time, I concluded that the appendages were diseased, and after three applications I decided to stop and to perform celiotomy On opening the abdomen the tumor was at once seen surrounded by adherent intestines, but it still appeared a symmetrically pear-shaped fibroid I could not, however, find the ovaries and tubes, and while digging around for them, I made a line of clearage which being followed up I was able to dissect out of a portion of the tumor which proved to be a sausage-shaped pus tube, this was delivered intact, tied and cut off Then followed a large cystic ovary, then the other tube which broke and inundated the field with pus, and then the other ovary, by which time the supposed fibroid was gone and only a moderate sized uterus remained The pelvis was carefully washed out and drained, the patient made a rapid recovery and is now at work and enjoying perfect health So that in this case Apostoli's dictum, that when the application of his method causes febrile reaction the tubes are badly diseased, was fully borne out

Now the objection to electricity which has so often been made to it, especially by one of my most esteemed friends in Philadelphia, that it causes adhesions is not true I maintain that one has no right to bring that charge 1, if fibroids which have never been treated by electricity do have adhesions, and 2, if fibroids which have been treated by electricity can be proved not to have become adherent

Now I am in a position to prove both of these facts When in Baltimore I saw the abdomen opened for fibroid but it was so adherent to everything, intestine and abdominal walls, that the operator, one of the ablest in the world, did not consider it possible even to get the ovaries out, and the abdomen was sewed up Now this case, the most covered with adhesions I have ever seen, you will say had received many applications of electricity, and so I thought judging from these statements, must have been the case But careful inquiry elicited the fact that she had never received a single application of electricity But that is only negative evidence Let us see about some positive evidence

Three or four years ago I treated a lady, head mistress of a large public school a thousand miles away, for hemorrhage and pain, by means of intra-uterine positive galvanism She had received one year's leave of absence from her important duties and the commissioners had advanced her one year's salary in order to regain her health, she being utterly incapacitated for work You may imagine that she was peculiarly anxious to get well and therefore submitted to a very rigorous application of the treatment three times a week with great fortitude, as high as 200 milliampères being frequently given at a time And this was not for one or a dozen applications but for fifty times By this time the bleeding and pain were nearly, if not entirely arrested, and I advised her to complete the cure by a few months rest at her old home down by the sea in New Brunswick This she did and came back to me in July with rosy cheeks and sparkling eyes She and I would have been perfectly satisfied with the result, and I should have reported her among my cures, had it not been for one thing, and that was that she asked me the question "Can you promise me that the awful hemorrhages will not return after I have gone to my far away home in the West?" This I could not answer her affirmatively

Her next question was "Is there any other treatment by which you can guarantee that result?" My reply was "yes, one only, and that is hysterectomy" Although the operation was not required by her then present condition, yet owing to her financial situation which would preclude her ever coming to Montreal again, at her urgent request I removed her uterus

Now if the charges against electricity have a vestige of truth in them I must have found the tumor covered with adhesions, in fact, the tumor and appendages must have been one agglutinated mass requiring some hours of patient toil to detach them, and for this I was prepared But what was my astonishment, on opening the abdomen and screwing a cork-screw into the tumor to be able to lift it out smooth and shining as the top of a bald man's head, the transfixing of it with pins and circling it with the serre-nœud was the work of a few moments and in a minute more the tumor was off She ran her 5 or 10 per cent of risk of death safely and made a splendid recovery and was at the head of her school once more on September 1

One such case carries more weight than a thousand assertions that electricity causes adhesions

But I can duplicate it A young lady who is now a trusted nurse in a New York hospital came to me the first year I used this treatment, for hemorrhage and pressure symptoms caused by a large fibroid She improved so much that I decided that she ought to go home by the time she had received fifty applications But after the last application she began to flow before the time, and I asked her to wait until it stopped It lasted seventeen days, a steady little stream of dark red blood I became momentarily discouraged and advised operation which was accepted, but I handed her over to a more experienced operator than I was, at that time I assisted at the operation and the tumor came out without the slightest difficulty, and was removed in the same way as the case mentioned above I examined it most carefully and the only trace of an adhesion to be found was a spot about the size of a silver 5 cent piece, where the tumor had rubbed upon the brim of the pelvis on the right side and where she often complained of pain before coming to me But there was not a sign of adhesion in the track of the electric current nor anywhere else except this one spot The hemorrhage was due to a tiny opening in a sinus by the end of the electrode

I dislike electricity, personally, because it takes up my precious time, but I want it to get fair play and not be blamed for sins that are not its own

There is one charge, however, which was frequently brought against the electrical treatment of fibroids or rather against a method of applying it, in the past, and which was well deserved but no longer applicable, because no longer employed I refer to the method of galvanic puncture

The greatest claim for the electrical treatment of fibroids that can be made is that it has *no mortality*, that it is absolutely safe If it is not safer than any other treatment, or, in fact, unless it is absolutely free from danger there remains only one advantage in its favor, namely, the saving of the ovaries But galvanic puncture no matter how performed, whether by the vagina or through the abdominal wall, must ever be a procedure fraught with danger and is today practically abandoned If any one still uses it, in the cause of electrical treatment of fibroids, I beseech him to use it no more The positive pole of the galvanic current gently introduced into the uterus will accomplish our object by unseen but no less certain means It dries up the juicy, bleeding mucous membrane and by its tonic action upon the muscular tissue through which must pass *the vessels* carrying *nourishment* to the tumor, its blood supply is cut off just as surely as though we tied the ovarian arteries which supply the body of the uterus The action of the electric current as applied to fibroids is three fold The first is not mysterious, *it is* but the arrest of circulation in dilated capillaries by an electric chemic cautery The second is no more difficult to understand than the action of ergot or strychnin, it not only tones up the vasomotor system making the caliber of the arteries less, but it calls into play the special and remarkable power which the uterus possesses of controlling its own circulation when it has the *strength* to contract The third effect of the current, its *electrolytic* action is, I admit, as *mysterious* as it has ever been, but not more so than the invariable absorption of syphilitic gummatous deposits following the administration of iodid of potassium Whether what we call electrolysis means the actual breaking up of an organic tissue into inorganic atoms, or whether it means, as seems more likely to me, that the growth deprived of its blood supply undergoes fatty degeneration and is partly eaten up by phagocytosis, stimulated to greater activity by the trophic nerves, no one with a large experience with this subtle fluid can deny that a uterus infiltrated with and enlarged by the deposit of fibrous tissue, whether localized *in* the form of fibroids or diffused as in areolar hyperplasia, so that the sound *will enter four or five inches*, will invariably diminish in depth by means of electrical treatment

Then again, what is the enormously enlarged uterus after delivery but a bleeding *myoma*? Does it not stop bleeding when the arteries which supply it with blood are squeezed by its contracting walls? Does it not rapidly get *smaller when*, for the want of blood and exercise, that immense mass of tissue silently undergoes fatty degeneration and returns to the blood from whence it came?

Wonderful and almost incredible as the total disappearance of a fibroid or myoma may seem to some, it is no *more mysterious than* this wonderful process of nature which we call involution Have *those who* doubt and even worse, deny the power of electricity to work a change in *fibroids*, *never reduced the* size and weight of a uterus which nature had *failed to* involute? Has Emmett never reduced its size by repairing a *lacerated cervix*? Have Churchill and Athill and ten thousand others with *honored names* never reduced *the quantity* of tissue in the uterus by the application of iodin? Have *not* a hundred thousand others ever reduced the weight of blood and muscle and areolar tissue in the heavy uterus by means of glycerin and hot water and other therapeutic *measures*?

Then why in the name of reason and justice, will you deny that an agent which we *can see* blanching tissues before our eyes, and making muscles of every kind of contact, why will you deny, I say, that it can diminish the blood supply to, and favor the fatty degeneration and absorption of, the fibrous or myomatous uterus?

The electrical treatment of fibroids, reduced to the above simple equation and stripped of all the extravagant claims which were at first made for it, stands to day upon *a foundation* so strong and true, that it will find an honorable place in the treatment of fibroids as long as women shall dread to die by the surgeon's knife, which I believe will be as long as the world shall last

LIGATION OF THE BROAD LIGAMENTS FOR UTERINE FIBRO MYOMATA—REPORT OF TWO CASES

Read in the Section on Obstetrics and Diseases of Women, at the Forty sixth Annual Meeting of the American Medical Association at Baltimore, Md , May 7-10 1895

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SURGEON IN-CHIEF BUFFALO WOMAN'S HOSPITAL GYNECOLOGIST ERIE COUNTY HOSPITAL BUFFALO N Y

The various forms of treatment and the varied surgical operations for the removal of fibroid tumors of the uterus has, in the past decade, been one of the most prolific subject of discussion in medical circles and the end is not yet

Abdominal *hysterectomy*—supravaginal amputation, with or without the clamp, or extirpation through the vagina by morcellement, each have their advocates, while other *operators* of note advise women *with uterine* fibroids which are giving no special distress to leave them alone

A *certain* proportion of uterine *myo* fibromas produce symptoms which necessitate some operative procedure for their relief *Often the* distress is occasioned by the association of a pus tube or an ovarian abscess, the diseased appendages, not the tumor, being the cause of pain and ill health Should an operator in such a case do a total extirpation? The operation done must fit the case and its varying conditions If there be double tubo-ovarian disease, it would seem wise to remove the uterus and both appendages, whatever the age of the woman, for a uterus without either tube or ovary is a useless organ Its removal will not lengthen the operation or add to its dangers in the least

If however, the woman be young and only the appendages on one side be diseased, the question is pertinent. Shall we do a total extirpation if anything can be done to cause the fibroid to absorb? If this can be accomplished the woman is left essentially in as perfect a state as though she had never lost the appendages of one side It can not be denied that woman was created with these organs for a purpose, and if not diseased they are essential to the most perfect state of health during her menstrual life, even if she bears no children

If the woman be under 38 to 40 years of age, if the uterine fibroid can be absorbed and her uterus returned to its normal size and functions, and if one set of healthy appendages can be saved, it must be apparent to the most radical, as well as to the conservative, that it is the desideratum to be desired It is truly conservative, it is just to the patient

Shall we subject every woman who has a fibroid to total extirpation, even if she has no other symptoms than discomfort from the presence of the tumor? I believe that every fibroid tumor of any appreciable size should be dealt with surgically, either to cause its absorption or to remove it *in toto* Fibroid tumors have been said to be benign I have seen malignant degeneration in three fibroids, and in conversation with other operators of experience have learned that they too have frequently seen malignant disease develop in uterine fibro myomata

Several years ago Gottschalk proposed to cause the absorption of uterine fibroids by ligating the broad ligaments, thus cutting off a part of the blood supply and so modifying the nutrition of the tumor as to produce this result

Dr Franklin H Martin, of Chicago, was the first in this country to carry out the suggestion, and it was by the reports of his successful results that I was led, a few months ago, to try it upon a young woman who would not consent to an hysterectomy, but who would let me do any operation which did not involve entering the abdominal cavity

The original limits of the proposed operation were that the broad ligament should be tied through the vagina I have three times tied them through the vagina, and twice while I had the abdomen open for the removal of other diseased structures than the fibroid In one of the cases in which I tied the ligaments in the abdomen, I should have removed the tumor, because the woman was at the age of the climacteric, had I not been desirous of observing its effect in that particular case

The results have been so satisfactory that it may be of interest to listen to a brief history of these five cases

Case 1—Miss McC, American, age 25, single, virgin, entered the Buffalo Woman's Hospital Sept 23, 1894 The patient was anemic, having had almost constant uterine hemorrhage for fifteen months She had hemic murmurs The fundus of the fibroid uterus extended two inches above the umbilicus Examination of its cavity revealed no submucous growths On Sept 27 the base of the broad ligament, including the uterine artery, was tied through the vagina The cervix was first incised as in vaginal hysterectomy, except that the incision was carried backward far enough only to sever the lateral utero-vaginal junction, and at the same time not open into Douglas' pouch Then pushing back the bladder and the ureters from the front of the cervix, the base of the broad ligament was easily reached and the whole mass ligated The line of incision was then closed by a continuous catgut suture The uterus was noticed in two days to have decreased in size and especially in hardness, having a boggy feeling on palpation She was discharged on the eighteenth day after operation, the fundus of the uterus being easily felt just above the pubic symphysis An interesting, and at the time a very annoying incident of her history after operation was the high temperature which developed without any apparent assignable cause On the second day the temperature went to 101 degrees and the pulse rose correspondingly There was no evidence of peritonitis, no feted discharge, no pus from the incision, everything was negative Careful exploration of the chest revealed no bronchitis or pneumonia The temperature continued to rise and on the fifth day was at 104 degrees and the pulse 120 From this time it continued to fall and reached normal on the tenth day

I have since seen the patient She is hearty, full blooded and robust The uterus is natural in size and her menstruation is normal in every respect

Case 2—Mrs A, American age 33, married fourteen years, sterile, entered the Buffalo Woman's Hospital Sept 26, 1894 She has a fibroid of the uterus extending to a point midway between the symphysis and the umbilicus She gives a history of pelvic inflammation three years ago, followed by almost constant pain in the left inguinal region She has noticed the existence of the fibroid for about five years, during which period her menstrual flow has been too profuse and often too frequent Examination under an anesthesia disclose a large mass to the left of the uterus which is probably a tubo ovarian abscess September 30 made an abdominal section, removed the left tubo-ovarian abscess out of dense adhesions and tied the base of the broad ligament Before she left the hospital the uterus was curetted for a persistent muco purulent discharge The patient went to her home on October 18, eighteen days after operation At that time the uterus had decreased rapidly in size It is now entirely normal but she menstruates more profusely than before her illness three years ago

Case 3—Mrs G, American, age 48, married, had one child twenty-six years ago, was brought from a distance on a cot to the Buffalo Woman's Hospital Jan 21, 1895 She is very anemic having flowed profusely for the past six months, and has a fibroid of the uterus extending above the level of the umbilicus, and an ovarian cyst on the left side which has pushed the fibroid over to the right The patient's abdomen is about the size of a seven months pregnancy February 5 the ovarian cyst was removed and the blood supply to the fibroid cut off by ligating the base of the broad ligament The patient was discharged on March 9, the fundus of the uterus being easily felt above the pubic bone

The further history is interesting and raises an important question She has not menstruated since the operation and has continued to increase in flesh and strength On April 20, she began to notice a fetid vaginal discharge which rapidly became more profuse In a few days her appetite left her and she began to have chills and fever Her physician communicated with me and I asked him to send her back to me at once On April 26 she returned to the hospital with a pulse of 120, and a temperature of 103 8 degrees On April 27, the following day, I dilated the cervix and removed from the inside of the uterus a sloughing sub-mucous fibroid the size of a hen's egg In forty eight hours the temperature and pulse were again normal and the patient ready to return to her home The uterus had contracted to its normal size

Case 4—Mrs S, American, age 38, married, one child 13 years old, entered the Buffalo Woman's Hospital Feb 22 1895 This patient had been having menorrhagia continuing about two weeks each month for the past six months During the past six weeks the flow had been constant, at times very painful, necessitating tamponment Examination under anesthesia shows an interstitial fibroid of the anterior uterine wall near the fundus, approximately the size of a hen's egg The uterus was at once curetted and the broad ligament ligated through the vagina The hemorrhage immediately ceased On March 15 she was discharged, and menstruated again March 25 rather more profusely than she ought, duration eight days In April her menstruation was still somewhat more profuse than normal for her All traces, however of the fibroid are gone and I doubt not that the next menstrual flow will be normal in amount and duration

Case 5—Mrs B, aged 45 American, married 28 years, sterile, entered the Buffalo Woman's Hospital April 8, 1895, with an interstitial fibroid of the uterus reaching nearly to the ribs on the left side, and on the right side extending to the margins of the costal cartilages One year ago she refused to allow an hysterectomy for its removal, as she suffered no pain, her menses were normal, and her general health was perfect The discomfort occasioned by the size and weight of the tumor is her only cause of complaint On April 10 I tied the broad ligaments through the vagina The patient returned to her home twelve days after operation The fundus of the uterus was then one inch above the level of the umbilicus She also noticed its falling from side to side when turning in bed owing to the decrease in its lateral diameters I have not seen her since her return home, but on May 1 a mutual friend brought word from her to me that the tumor was still decreasing rapidly and that she was watching its departure with much satisfaction

The results obtained in these five cases, even though they be only five, seem to prove that this operation is effective in causing absorption of the tumor The course of Case No 3, from whom I later removed the sloughing submucous growth, seems to raise the question whether this operation will cause their absorption or necrosis There is need of further experimentation to determine whether this slough was caused by the deficient blood supply, or whether it was merely a coincidence The uterus evidently had begun its efforts to extrude the mass, because the patient gave a history of pain antedating the fetid discharge, whence the uterus may have caused its necrosis by pressure as it often does

Many operators will object to substitute this conservative operation for the more brilliant hysterectomy A surgical operation should be done solely with a view to the best interests of the patient Unfortunately too often the brilliancy of the operation, not the best interests of the patient, actuate the operator in his work Fortunately, however, the real brilliancy of our work resides, not in that which brings forth the plaudits of those who frequent our operating rooms, but in the ultimate results of that work, upon which our patients and the public will surely pass judgment

There is no more danger in this than in an Emmett s operation If the tumor be large there is some difficulty in reaching the broad ligament, as the tumor is apt to lift out of the pelvis by its growth Furthermore, fibroids occur more frequently in unmarried women, or sterile women, in whom the vagina is small, thus adding to the difficulties of the operation

If as a result of this operation a uterine fibromyoma absorbs and the uterus returns to its normal size and functions, is it not better for the patient in its ultimate results than an hysterectomy? Especially is this to be desired if the woman be young, as was my first case She may bear children if she marries

This operation is not applicable to all fibroids Very large hard tumors will not be benefited by it Tumors which spread out broadly in the broad ligaments, displacing the uterine arteries upward, are not appropriate for it Very large tumors are apt to rise high in the pelvis making it difficult to get at the broad ligament, especially as fibroids so frequently occur in sterile women whose vaginas are narrow, thus adding to the difficulties of the operation

The class of fibroids in which this operation will be found most effective is those of medium size, soft, bleeding tumors The softer the tumor and the more hemorrhagic it is, the more liable is it to absorb after this operation

There is merit in the operation in properly selected cases It is conservative It does not prevent more radical procedures later, if they be necessary

DISCUSSION OF PAPERS OF DRS EASTMAN, SENN, SMITH AND FREDERICK

Dr Gordon, of Maine—I am very glad to see this Section of the Association alive to the subject of hysterectomy Two years ago, in this Section, I read a paper entitled, "Hysterectomy without a Pedicle," and one or two years since I read before the *American Gynecological Society* another paper, in which I took the ground that in every case of fibroid of the uterus, where the woman consulted me for any trouble arising from it, I should perform hysterectomy It was a bomb shell in that Society, and my friend, Dr Mundé, stayed over, it is said, to "wipe up the floor with Gordon" I am very happy to see that the majority of the men present do not join my friend in this attempt to wipe up the floor with me I have steadily pursued the same course, and I stand to day on precisely the same ground If I have any patients coming to me with trouble arising from fibroids of the uterus, I unhesitatingly recommend hysterectomy and resort to it every time I do it by a process which, I believe, is entirely my own Every one has his own method I do it by a continuous suture of catgut, and nothing else I simply put a clamp under the tube and ovary, then an inch below the clamp with a long curved needle threaded with catgut I tie as strongly as I can and cut between that and the clamp I then cut and sew until I get down to the uterine artery on each side I change sides and cut down to the uterine artery or near it, I then divide anteriorly and posteriorly the peritoneum and dissect it down, the best I can with my fingers and scalpel I dip my needle down and loop the uterine artery, passing the needle through the loop, and then after it is drawn up I cut the uterine artery, and at that point beside the loop I make a knot with the free end of my catgut I then dissect the entire cervix, I make a complete hysterectomy When the uterus is out, I have then simply to pass forceps over and carry the suture along continuously It is *extraperitoneal*, yet an intrapelvic operation It covers the entire thing I am not particular about closing the vaginal opening except to stop the hemorrhage and leave a small opening for drainage With rare exceptions I close the opening with silkworm gut and put in no drainage I believe drainage simply indicates that we have no confidence in our asepsis, consequently I do not use it I do not say I never use it, but as a rule I do not

Dr A H Tuttle, Boston—I am glad to hear of the universal success of hysterectomy, as brought out by the different speakers, and although there are slight points of difference in the technique of various operators, still they all have the one object in view Personally, I believe total extirpation—that is, removal of the cervix—is the proper thing By removing the cervix we afford better drainage by the vagina We can close the abdomen and if there is any secondary hemorrhage or oozing it will leak out through the vagina without causing further trouble I believe where we leave the cervix there is possible danger of subsequent changes of a carcinomatous nature, in other words, I am satisfied in many cases of fibroids that the ultimate result comes from degeneration of the fibroids in some malignant form I have good reason to make that statement from cases I have seen

In regard to the question of hemorrhage, I think where we do a total hysterectomy, the danger of secondary hemorrhage is less than where we resort to a partial hysterectomy, for the simple reason that as soon as the hemorrhage or oozing is detected from the vagina we can prevent it from terminating fatally One thing should be emphasized in the treatment of these fibroid cases, and that is with reference to making the first incision into the abdomen In one case where I had a multilocular fibroid to deal with, as I cut down upon the peritoneum at a point above the umbilicus I encountered difficulty in entering the peritoneum and opening the peritoneal cavity I discovered the bladder was carried away up on this tumor, the uterus was back out of sight Had I gone in at the usual point of incision I would have opened into the bladder itself It was a warning to me and should be borne in mind when we are dealing with large masses In removing the cervix we should insist upon closing off the uterus in some way, and although it has been shown that infection from the cervical canal is comparatively slight, still we should take no chances whatever from any source of infection Rapidity of operation depends as much upon the operator himself as upon the technique

Dr **Howard A Kelly**, of Baltimore,—could not agree with the statement made by Dr Gordon, and he sees no necessity for removing fibroid tumors which are doing no harm He does not urge the operation unless the patient is in some way suffering from the presence of the tumor, that is, unless she has pain, or hemorrhage, or pressure symptoms He regarded Dr Senn's method of operating as a retrograde movement in our technique Dr Kelly then described the technique of the operation he usually performs in the removal of fibroid growths of the uterus, which has given very good results in his hands

Dr **Henry O Marcy**, of Boston,—said he was in favor of treating the pedicle by the *intraperitoneal method* When he first suggested this some years ago, it was looked upon as an ideal but not a practical suggestion The evolution through which the operation of hysterectomy has recently passed is one of the marvels of modern surgery

Dr **I S Stone** of Washington,—said that in all of the cases coming under his observation where some benefit followed the use of strong galvanic applications there was ultimately a recurrence of the symptoms and growth The technique described by Dr Senn he thought worthy of serious consideration After the removal of a fibroid of large size, there is always considerable shock, and by following the plan outlined by Dr Senn, he thought the amount of this shock would be minimized

Dr **G B Massey**, of Philadelphia,—said that in the hands of careful men electricity remains the most valuable agent at our command for the treatment of the hemorrhagic forms of tumor The treatment must be persistent and long-continued In growths of large size, the improvement following its use may be slow, and a radical surgical operation may be preferable In one case coming under his observation, in which Dr Martin had tied the broad ligaments through the vagina, the tumor decreased in size during the first six months and the hemorrhage was less severe, but after that there was a recurrence both of the size of the tumor and the hemorrhage Under systematic electrical treatment the patient has since improved greatly

Dr **Charles P Noble**, of Philadelphia—agreed in the main with Dr Gordon that when a fibroid gives rise to symptoms sufficiently severe to make a patient ill, it requires attention It may not be necessary in every instance to perform hysterectomy When they give rise to symptoms however, it is best to remove them During the past eighteen months he has seen five cases of fibroids which had undergone malignant degeneration, three of which were sarcomatous, and two were carcinomatous He had not had good results with Martin's operation Hysterectomy in his hands has proved less dangerous than ovariotomy He did not think Dr Senn accomplished anything by his operation The method described by Dr Kelly, and which was familiar to the members of the Section, would save at least twenty minutes in the performance of the operation Dr Noble believes that in a short time the general mortality of hysterectomy will be less than 3 per cent

Dr **J M Baldy**, of Philadelphia—said that he would remove all fibroids that came under his care, because he never saw such a tumor that did not give rise to more or less trouble An ovarian cyst would be removed as soon as discovered, symptoms or no symptoms, and so should a fibroid tumor, which can be removed as safely as ovarian cysts As to ligation of the uterine arteries, it is a very plausible, very attractive procedure theoretically, and it is only applying to the uterine arteries what Mr Tait does to the ovarian artery when he removes the appendages He gets a shrinkage in his tumors by shutting off the arterial supply The means of effecting a cure in the operations are precisely the same Collateral circulation will sooner or later be set up, and the tumor again begin to grow If the abdomen is opened and the uterine arteries ligated, the operator might as well include the removal of the uterus The shock is no more, it does not add to the length of the operation, and with all due respect to Dr Senn's fear of shock to the peritoneum he has none whatever He rarely sees it Mere exposure of the peritoneum does not lead to shock He was glad that no one had advocated complete extirpation, for he believes this operation would be difficult Dr Kelly's method in the hands of expert operators is a good one, but it is a dangerous method for beginners Dr Baldy did not believe that it is good practice to tear the tissues in performing hysterectomy, he prefers to ligate and then cut He agreed with Dr Kelly in considering Dr Senn's method as a retrograde procedure

Dr **Dudley**, of New York—said it was utterly impossible in five minutes to do justice in the way of discussion to the series of papers that have been read, covering as they did a large field in the removal of disease from a woman's pelvis He said that all the various methods of operating, which were referred to by the different speakers, are applicable in proper cases We must learn to apply the method to the case, and not the case to the method A complete and radical operation is the most brilliant, and often the one most easily accomplished, but it is not always the best one for the patient

Dr **Frederick** had done a good many hysterectomies during the last five months He had tied the uterine arteries in five cases as a test, and the results were so uniformly successful and he was so well pleased with the method, that he thought he would trespass upon the time of the Section by reporting the cases, so that the members might have the benefit of his experience In the hemorrhagic forms of tumor in virgins or in young women, by tying the uterine arteries the tumor is absorbed, the patient's uterus, tubes and ovaries are left, and if she marries she may bear children or may not Whether she does or not, she has in her pelvis normal organs that are better there than an empty pelvis It is the surgeon's duty to do what is best in his judgment and experience for the patient, and every operation, as Dr Dudley had said, should be shaded according to the case, and and not make the case come up to the standard

Dr **Senn** said the members of the Section were not all Kellys and Baldys, and while the operation he had described was not intended for experts but for the average surgeon and gynecologist, he believes that even a Kelly or a Baldy could learn a lesson from the description of the operation He had seen cases of myofibroma of the uterus—and so had Kelly and Baldy— where a complete hysterectomy, one of the most complicated of all surgical operations, was indicated and called for, and from which men old in experience shrank from undertaking such a task The veteran Keith, after he had performed thirty-five laparo hysterectomies, was candid enough to inform us that his courage began to fail him, that he was glad to grasp at more conservative measures, notwithstanding the unparalleled success he had attained at that time

Dr **Eastman** considered the method described by Dr Senn a step in advance, and said he was wise in presenting an operation which the average surgeon could perform, and that does not require the facilities that must be had in order to make the perfect operation which Kelly and others have described He desired to place himself on record, as he did at the San Francisco meeting, to the effect that he had seen very many cases of gangrenous nodules, of fibroid tumors udergoing malignant degeneration, and a fibroid tumor of any size is dangerous

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THE SURGICAL TECHNIQUE OF ASEPTIC WOUNDS

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association at Baltimore, Md , May 7-10 1805

BY HENRY O MARCY M D
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Notwithstanding the revolution already wrought in the technique of wound treatment, I must yet think that no subject more important or practical can be brought before the profession at the present

Wound infection, in a general way, is fairly well understood, and those who have given special attention to the subject will, at least in a large degree, accept the opinion which I published some years since, that suppuration, supervening in a wound, deliberately made by the surgeon, through healthy integuments, indicates that there has been some avoidable error in its technique If the conscientious surgeon accepts this view as the standard by which to criticise his work, and earnestly seeks to determine the cause of the error, he will find a gradual elimination of much that is superfluous, as well as defective in detail For the scientific skillful surgeon a bacteriologic training is almost a *sine qua non*, since only by such repeated investigations is he enabled to familiarize himself with the special characteristics of the infective material with which he has to deal

The reparative processes, supervening in the well vitalized tissues of the healthy animal, non-infected by bacteria, are comparatively simple The necrosis line following a clean incision may be limited to the injured cells, and only a microscopic layer of tissue is involved in the changes which ensue in the impeded surrounding circulation, local stasis, and exudation of lymph Beyond the line of the exuded lymph which glues the two surfaces together, the changes are very limited, an infiltration of leucocytes and plasma cells supervene connective tissue cells develop, and a permanent union of the structures is effected Upon the cutaneous surface the epithelial cells interblend, and this process of healing, even in wounds of considerable size, may go on almost without constitutional disturbance, pain, or edema

In wounds of important structures and of considerable extent, there is generally a prompt reaction, exhibited by a considerable, more or less, rise of temperature, which is explained probably by the reflex disturbance of the nervous centers Within limit this may be regarded as a favorable reaction, since within twenty-four to thirty-six hours the temperature falls without serious constitutional disturbance This must not, however, be confounded with the fever due to septic infection, which usually does not make its appearance until after the third day

If, on the contrary, the divided structures are not brought into apposition, the space is filled with coagulated blood and serum, and the repair processes become far more complicated The aseptic blood clot is penetrated by leucocytes and proliferation cells, and, little by little, an organized structure extends through the mass, the so called healing by blood clot supervenes, which is to say that the regenerative processes, observed in the first instance, take place much more slowly, but effectually utilizing the aseptic blood clot by a metamorphosis of its material in part, and in part by absorption If in addition to the blood clot we have introduced into the wound a bacterial infection, entirely another class of conditions supervene, dependent upon the character of the infective material If the wounds are large with much effusion, owing to the development of the bacteria, the blood becomes rapidly decomposed and a large amount of chemic poisoning is produced, the so called toxins which are absorbed causing a kind of septic intoxication, varying in degree, but which may speedily prove fatal

In a paper of this limit it is possible to refer only with extreme brevity to the character of the microorganisms with which the surgeon has specially to deal Fortunately there is less necessity for the description of these organisms than at an earlier period The staphylococcus pyogenes aureus and albus and the streptococcus pyogenes are almost the only organisms which produce suppuration The staphylococci in their development produce the typical local suppuration, while the streptococci possess the property of invading the tissues and are, as a consequent, oftentimes eliminated with much greater difficulty, causing the acute forms of septicemia and pyemia Other varieties of microorganisms not seldom develop in wounds, especially the putrefactive bacteria and although their organisms can not penetrate into, or reproduce in, the structures, the toxins which they produce may cause very serious constitutional disturbances The developing cocci induce a rapid liquifaction of the albuminoids and thus break down the blood clot, and organizing lymph Thus the toxic chemic material evolved in their growth may act as a local poisoning, devitalizing the surrounding structures, producing coagulation-necrosis In the surrounding structures a complex process supervenes owing to this toxin infiltration, causing the so called processes of inflammation, dwelt upon at great length by the earlier writers There is much yet to be learned in reference to the changes which ensue about the infected wound structures, and from this standpoint the whole subject of wound inflammation needs to be rewritten

The streptococci extend along the lymphatic vessels and lymph spaces and, when introduced into the blood, growing as they do in long chains, they have a tendency to form emboli in the smaller vessels, and thus set up new centers of suppuration at very considerable distances from their original seat of invasion On the contrary, the staphylococci, developing locally are soon surrounded by a living wall of leucocytes, which impede the further dissemination of the invading enemy, and the contest goes on *in loco*, and the result of the battle will depend upon the vigor of the antagonists Hence the practical importance, which must always be apparent, that the surgeon devitalize as little as possible the tissues in operative interference It is indeed well known that it does not of necessity follow that a few microorganisms thus introduced will reproduce to the detriment of the individual, the superior vitality of the tissues may enable them to destroy their enemies *in loco*, and the processes of primary repair may go on uninterruptedly

How a certain limited number of microorganisms can be destroyed in a wound, is a question of intense interest which can not be discussed here, beyond the fact that a phagocytic action of cells does supervene under certain favorable conditions and the bacteria fail of development Of course, much depends upon the vitality of the surrounding structures and the non-presence of the proper pabulum or soil for bacterial growth It is a fact that any considerable blood clot in the wound infected by developing bacteria prevents primary union.

Inferences of practical importance are clearly drawn from the above facts in regard to the manipulation of wounded structeres Let all incisions be cleanly made with a very sharp knife, avoid the still too common practice of seizing and holding considerable portions of tissue with compression-forceps for the arrest of hemorrhage Protect the structures carefully from tearing in the separation of wounds, as, for example, in the use of retractors in laparotomy, and perhaps more important than all, be careful in the adjustment and coaptation of like structures when suturing in the closure of wounds

It is no excuse, however, for careless surgery that bacteriologic demonstrations show that a few bacteria, even of the pathogenic varieties, when planted in healthy tissues, may fail to reproduce, although this is the probable explanation why some of the so-called "clean surgery" well performed without rigid aseptic precautions is not rarely followed by primary union

Just at present, the profession is undergoing a transition state by the more or less general acceptation of the influence and power which certain chemic substances, the so called toxins produce Blood serum affected by these is believed, upon that which many accept as good authority to possess an inhibitory power to prevent in some way the development of the bacteria within the organism It seems very probable that this fluid in the healthy body is far more potent in the protection of the individual from the invasion of bacterial enemies than was earlier supposed

The military student may well profit in his studies of defensive warfare from a careful investigation of the wondrous way which nature has in defending her outposts from the invasion of bacterial enemies

The thoughtful investigator makes the inquiry, wherefrom come these invisible hordes which endanger the individual at every infraction of surface? The aerial ocean in which we live and of which we must ever breathe is it is true, rarely without deleterious bacterial organisms, but by general consensus of opinion, based upon abundant demonstrative evidence, these organisms are much less potent for ill in surgery than was earlier believed, and it is not less certain that the all-invading bacteria, contaminating clothing not worn upon the person, and water as usually found in hydrant service contain less dangerous elements than was at first supposed

It is due in large measure to the very valuable experimental researches, carried on in the bacteriologic department of the Johns Hopkins University, that we have the most important demonstration that the all-pervading source of the pyogenic bacteria is found in the dead and dying epithelial cells Indeed, it appears that nature with a rare temerity has subjugated this all common enemy and drafted it into her service for the purpose of removing the no longer serviceable plates of the armor with which the organism is clothed and protected Within certain limits these invisible agents are permitted to riot and with insatiable avidity seize upon every dying epithelial cell, the demarcation line existing in the cell whose inherent organic power is greater than that of the overlying enemy Hence the surgeon finds at the very door the ever-lurking foe, and the problem of their destruction is of comparatively easy solution with the abundant agencies which are at his command For the destruction or removal of the bacteria invading the skin, antiseptic measures are of the greatest advantage and even necessary In their use we find the easy explanation of the seeming difficult question of the good results obtained from different methods One operator cuts short the finger-nails, soaks and scrubs with hot water and soap, until by a process of maceration he has loosened and detached the infected epithelial cells, and stands out as the bold apostle of cleanliness, having demonstrated, as he thinks, that soap and water are sufficient

Another repeats the experiments of the early great master, Mr Lister, and declares that the maceration of the skin of the patient, for some hours, with a watery solution of carbolic acid, is ample Thus the cleansing process has been varied by the use of many substances, to each of which has been ascribed the protective power To all this questioning and experience the laboratory investigation gives the one definite answer, By some means remove or destroy the loosened, worn-out, epidermal cells The demonstration seems conclusive that the great enemy to all surgery, the hand of the operator, is best disinfected as first taught in Baltimore, by the use of solutions of permanganate of potash and oxalic acid

If it be true, that permanganate of potash in solution does not color the living cell, and that all devitalized epidermal structures are invaded with pyogenic cocci, then the demonstration is ample, that the hands of few surgeons, relying only upon the ordinary processes of washing with soap and water, are likely to be surgically clean These epidermal cells, however, may remain so adherent even after the processes of washing and scrubbing have been thoroughly practiced, that a prolonged operation may not cause their loosening and transplantation into the operative wound

From these investigations we also have the knowledge of the more usual forms of contamination found in hospitals and the ordinary bed chamber Proliferating epithelium of the skin becomes disseminated and may prove a source of contamination through the infection of both the air and water In this way instruments, sponges, and clothing are generally infected

From the above it is easy to determine why the older forms of wound dressing were so invariably productive of suppuration, the bacterial development went on under the watery dressings and especially poultices, these proving hot-beds of infection

The destruction of pathogenic bacteria during their period of rapid development is comparatively easy Moderate changes of temperature affect their growth, and various chemic substances, even in weak solutions, produce their death, but those varieties which reproduce by spores are among the most resistant of living organisms Exposure at the freezing point, immersion in boiling water for a considerable period often have little effect, but fortunately the surgeon very rarely has to deal with the spore-producing forms of bacteria All the pyogenic cocci do not reproduce by spores, were it not for this fact it would seem almost hopeless to adopt methods of wound treatment which could successfully prevent the most fatal consequences, such as would follow were their common enemies of a type of which anthrax, tetanus, and tuberculosis may be cited as examples But here also we find the knowledge of the life histories of these comparatively recent known enemies to mankind most valuable, since the spore producing bacteria are of much slower development which renders it easier for the wounded organism to resist their depredations Comparatively weak solutions of bichlorid of mercury from 1 to 1000 or 2000 or a 2 to 5 per cent solution of carbolic acid are ample to destroy the pyogenic cocci, if the exposure is complete These pus-forming agents, however, are quite completely protected by the fatty products of the sweat ducts, unless the watery solutions are for a very considerable period retained upon the skin. This is especially true of the mercuric solution, probably the most efficient antiseptic agent in general use, since the power of penetrating the epithelial cells is far less than that of carbolic acid Hence in skin disinfection we note the importance of soap, alcohol, ether, turpentine, etc, as valuable adjutants

The only class of wounds which this occasion affords the opportunity for discussion is that in which the surgeon is enabled to operate through previously unbroken, undevitalized, superficial structures, and where the wounded parts can be brought into complete approximation. Theoretically under such conditions primary union must ensue, and where this fails from the occurrence of suppuration, as I stated in the beginning of this paper, there has been some fault in the technique. The rule prevails in the treatment of the structures after they have been submitted to surgical interference in precisely the same formula as tersely stated for the treatment of a simple fracture, *fixation*, *retention* and *rest*, and as in a simple fracture the wounded structures must be without septic infection.

This naturally leads to the discussion of the terms aseptic and antiseptic, used with confusion, without a correct appreciation as to their meaning, and perhaps it would be better if both terms were entirely discarded. The problem is to make and maintain a wound without infecting the structures involved. This surely should leave the parts *aseptic*, that is free from pyogenic organisms.

In order to do this, it is equally clear that the circumfusa of the wound, the instruments, sponges, suture material, and hands of the operator must be free from septic organisms. To effect this the various means at our disposal, by which we sterilize the materials in use may still be called *antiseptic*, the name first given to these processes by the great master of modern surgery. I have already entered into the discussion of the infective bacteria as much as the time at my disposal permits, sufficient indeed to point out their danger. Important practical deductions from this teaching are comparatively simple, but most definite in character, and, although there will probably remain yet an infinity of variation as to detail, the great fundamental principles of this class of wounds and their treatment may be considered settled. First, and most important is the disinfection of the skin of the patient and of the hands of the operator. It will be remembered that the cocci growing in the skin penetrate as deeply as the devitalizing processes of the epithelial cells, that the sebaceous and hair follicles are yet more deeply invaded, and that they are here protected from destruction to a certain extent by the glandular and fatty products.

It seems almost superfluous to refer to careful experiments, often repeated, which show that soap and water, applied with the minutest care fail to disinfect the glandular structure of the skin, and, if this is true, although these measures are of the greatest importance, the processes of so called simple cleanliness are not sufficient. Therefore we must call to our aid some of the various antiseptic agents long since proved trustworthy. The first of these is carbolic acid, objectionable because of its irritating character. It is found, however, that this very irritation of the skin is owing to its penetrating power upon the epithelial cells, and the glandular structures. It has an affinity for oily products and easily impregnates fatty substances. In this respect it is much more efficient than even considerably strong solutions of corrosive sublimate, but in the glandular and hairy portions of the body even the 5 per cent solution of carbolic acid must remain in contact for a considerable period to disinfect these portions. For this purpose a 10 per cent solution of oxalic acid is far more trustworthy. Cultivations made from the scrapings of the skin after having been treated carefully with oxalic acid solutions show the epithelial *débris* to be invariably sterile, even when the material to be tested is taken from the deep folds of the finger nails.

The use of the razor is important even where there is comparatively little hair to be removed. The repeated soaping of the parts softens and loosens the epithelium, which the scraping of the razor easily removes. To the soap, carbolic acid and bichlorid of mercury may be profitably added. If possible, these details should be carried out before etherization, because of the saving of time and the more thorough manipulation permitted when haste is not demanded.

Instruments are easily disinfected by heat, which is preferable to immersion in disinfectants, since the damage to the instruments is less than by a considerable period of immersion in antiseptics.

The preparations thus far completed, it now remains properly to protect and care for the patient in order that, during the operation, the surroundings of the parts to be operated upon may be also sterile. This is best effected by packing about with towels sterilized by heat, or by immersion in antiseptic fluids. I prefer the latter, towels wrung from a solution of 1 to 1000 of bichlorid of mercury, since they remain in position much better when wet than dry. It is also important to have on a table near the operator dishes containing solutions of bichlorid of mercury in which the instruments and hands may be occasionally dipped.

I use irrigation much less than formerly, but I am very sure I have seen no ill results from the so called chemic irritation of warm solutions of corrosive sublimate, even in strength of 1 to 1000, and I am confident that much less damage to the injured parts ensues from it than from the irritation caused by frequent sponging. When the proper technique is faultless, it is very likely that sterilized water is of equal efficiency, but my experience teaches me that the damage from the so called chemicals, if properly applied, has been greatly overestimated. To one who is an imperfect master of technique I can not question but that the use of weak antiseptics and hot irrigating fluids is of great value.

There can be no question but that marine sponges have been a common source of wound infection, and I do not wonder that operators, who can not first supervise details, have learned to rely on the gauze pad as a substitute, since these are easily sterilized by heat during the preparation for the operation. They are, however, far inferior in their absorptive power and a possible source of conveying lint into the wound.

It is very unwise to continue the use of sponges that have been used in septic wounds, but sponges carefully disinfected may be continued in repeated use with safety in aseptic wounds. Sponges should be thoroughly washed in cold water and after repeated washings with soap and water, I prefer soaking them several days in a 5 per cent solution of carbolic acid, changing the acid two or three times. They are then put into a jar containing this solution and kept until required for use. This process is conveniently varied sometimes by carefully bleaching in an oxalic acid solution. They must, however, be carefully watched, for if kept too long in it the integrity of the sponge is impaired. If preferred, the sponges may be dried

Statistics of the Paris Pasteur Institute —In the first three months of this year, 315 persons were treated at the Institut Pasteur Of this number, 23 were bitten by animals proved to have rabies experimentally, 224 were bitten by animals found to be mad after examinations by veterinary surgeons, 98 were bitten by suspected animals Of the animals, 324 were dogs, 15 cats and one ass One patient died before the end of the treatment St ——, a man of 48, from Glasgow, was bitten March 8, treatment began on the 11th There was but one bite but it was deep, situated in the inferior third of the fore-arm, on the anterior surface On March 23 the patient, after taking a hot bath, rode on the outside of an omnibus, caught cold, rabiform symptoms appeared in a few days and he died April 1[1]

Scavengers Without Health Officer's Permit — A regulation of the Health Department of the city of St Paul prohibited "licensed persons' from doing certain scavenger works "without a permit first obtained from the Health Officer" It nowhere appeared what license was required, or that any persons were prohibited from doing such work without such license So says the Supreme Court of Minnesota in the case of city of St Paul v Lawton decided July 2, 1895 The defendant in the case was charged with having violated such regulation by doing such work without such permit It was not alleged or proved that he was a licensed person Under these circumstances, the court holds that a conviction can not be sustained

Diphtheria Antitoxin Treatment in Germany —The results of treatment in 10 240 cases of diphtheria in the German hospitals and in private practice were recently reported to the Society for Internal Medicine by Professor Eulenberg Of this number 5,790 were treated with the antitoxin serum, with 552 deaths—a mortality of 9 5 per cent for all ages, 4 150 were treated by other methods with 652 deaths—a mortality of 11 7 per cent By ages, the mortality was, for those under 2 years, 21 7 per cent by the antitoxin treatment, 39 7 per cent without, between 2 and 10 years of age the mortality was 8 8 and 15 2 per cent respectively, for all cases over 10 years of age the mortality was 4 1 per cent under antitoxin and 8 8 per cent under other methods Professor Eulenberg again called attention to the importance of early recourse to the antitoxin, used within the first forty-eight hours the mortality was only 4 2 per cent, delayed beyond this period the mortality was increased to 16 8 per cent These figures must certainly be regarded as a vigorous addition to what Virchow has called the "brute force" of the numerical argument

Milk Supply of Rome —The very thorough sanitary regulations as to milch cows which have been in force for some time as to Rome proper have been recently extended to cover the whole commune, which includes most of the surrounding Campagna All cows and other animals which supply milk in the suburbs and Agro Romano are subjected to rigorous examination by competent veterinarians, healthy animals, capable of furnishing good milk are marked on the horns and licenses issued to the owners Only milk from such inspected and licensed animals may be sold The inspections are repeated every year in April, May and June and at such other times as the authorities deem necessary, diseased animals are condemned and slaughtered, those selling milk below the fixed standard are refused license, and cows suspected of tuberculosis are subjected to the tuberculin test at the owner's expense and destroyed if found diseased The Rome correspondent of the *British Medical Journal* says the extension of these regulations to the whole commune is a great boon to the inhabitants, since all cows which supply milk to the city will now be under inspection, and this will prevent the sending of tuberculous cows from Rome proper into the Campagna whence they might continue to supply the city

Disinfection of Tubercle —The *Public Health* quotes from the *Revue d' Hygiène* an approximate valuation of pyroligneous acid as follows "Goriansky, of St Petersburg, has been experimenting to determine the relative value of wood-tar and some of its products The most active appears to be wood-vinegar (pyroligneous acid), which kills tubercle bacilli in cultures in an hour, in sputa in two hours, and the streptococci and staphylococci in the latter in three hours"

Diphtheritic Specimens by Mail.—According to *Public Health*, the French postal authorities have removed restrictions formerly placed upon the sending by post of the membranes of diphtheria The precautions that must still be observed are quite elaborate They may only be sent in a thick glass bottle, tightly corked and sealed, surrounded with wadding and put into a solid metal box, which in its turn is to be inclosed in a well-fitting wooden box This must be legibly addressed and labelled "Diphtheritic false membranes," and may only be sent to the Institut Pasteur or to one of the recognized provincial laboratories

New York State Board of Health —At a recent meeting of this Board, Dr Daniel Lewis, of New York city, was unanimously elected President to succeed Dr Florence O'Donohue Dr Lewis is an ex-President of the State Medical Society Dr Frederick W Smith, of Syracuse, appointed by Governor Morton as successor to Dr O'Donohue, sat with the Board The Board received an opinion from the Attorney General, holding that Dr O'Donohue could continue as a member of the Tuberculosis Committee for the year, although his term of office as a member of the Board had expired Dr Lewis is also an ex-President of the county medical society, editor of the Medical Directory of New York, and member of other medical organizations He was a strong candidate of the "anti code people" for appointment as Health Officer of the Port before Governor Morton appointed Dr Alvah H Doty to that office He has now, however, landed on his feet in this very important position, which is destined to have more power for good than has been the case in the past

City is Not Liable for Acts of Board of Health Employes —Where the duty of keeping the streets clear of putrid and other substance offensive to the sense of smell, and which tends to imperil the public health devolves, under a city's charter, upon the Board of Health of that city, the Supreme Court of Georgia holds, in the case of Love v city of Atlanta, decided Dec 4, 1894, though but recently reported in 22 Southeastern Reporter 29, that the functions of this department of the city government being governmental, and not purely administrative in their character, it follows that if, in the discharge of such functions, and in the discharge of the duties devolving upon this department thereunder, a private citizen is injured by the negligence of one of its servants in and about such work, no right of action arises against the city But it is to be observed, says the court, that, in order to exempt a city from liability, it is not sufficient to show that the particular work from the negligent performance of which by the servants of the city, a citizen was injured, was being done under the direction of the Health authorities, but it must be shown that the particular work so being done was connected with or had reference to, the preservation of the public health If the Health Department were engaged in clearing away or removing obstructions from the street which in no way endangered the public health, the responsibility of the city then would rest upon the rule of liability for the work connected with repairing and keeping in order the public highways It can make no difference in principle as to the character of the agents employed in the discharge of this duty with respect to the public health The principle of non-liability rests upon the broad ground that in the discharge of its purely governmental functions, a corporate body to which has been delegated a portion of the sovereign power is not liable for torts committed in the discharge of such duties and in the execution of such powers It can be no more liable because of the fault to select competent drivers of garbage carts than a city could be held liable for failing to elect a wise, conservative and discreet mayor

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[1] Bulletin Medical, July 7, 1895

Health Reports —The following health reports have been received by the Supervising Surgeon General, Marine-Hospital Service

SMALLPOX—FOREIGN

Antwerp July 1 to 6, 1 case, 1 death
Buda Pesth July 8 to 15, 3 cases, 1 death
Cairo June 25 to July 1, 4 deaths
Calcutta June 15 to 29, 36 deaths
Glasgow July 6 to 13, 10 cases
Guayaquil June 29 to July 19, 9 deaths
Liverpool July 6 to 13, 1 case
Madrid July 8 to 15, 5 deaths
Montevideo June 22 to 29, 2 cases, 1 death
Nogales July 13 to 27, 3 cases, 2 deaths
Odessa July 6 to 13 2 cases
Prague July 6 to 13 1 case
St Petersburg June 29 to July 6, 4 cases
Trieste July 6 to 13, 8 cases, 1 death
Warsaw July 6 to 13, 1 death

SMALLPOX—UNITED STATES

Louisiana New Orleans, July 20 to 27 1 death
Michigan Detroit, July 22 to 29, smallpox reported, Battle Creek, July 20 to 27, 2 cases
Missouri St Louis, July 20 to 27, 1 case
New York Brooklyn, July 27 to August 3, 1 case
Texas Eagle Pass, August 3 55 cases, 3 deaths

YELLOW FEVER

Cuba Cienfuegos, July 21 to 28, 2 cases at the Municipal Hospital Other cases in town Havana, yellow fever increasing Sagua-la-Grande, July 20 to 27, 1 case
Mexico Vera Cruz, July 18 to 25, 13 deaths

CHOLERA

India Bombay, June 26 to July 2, 1 death, Calcutta, June 15 to 29 86 deaths, Madras, June 22 to July 5 3 deaths

Russia Volhynia Government, May 26 to June 8 79 cases, 20 deaths

Turkey Constantinople, June 20 2 cases, 1 death, Tarsus and vicinity, June 9 to 29, 41 cases, 34 deaths, Adana, June 10 to 29, 180 cases, 105 deaths, Sis, June 10 to 29 87 cases, 58 deaths, Hatschni, June 10 to 18, 9 cases, 6 deaths, Pajast, June 16 to 29, 17 cases, 6 deaths, Mesis, June 17 to 29, 27 cases, 8 deaths, Karatasch, June 17 to 29 89 cases, 44 deaths, Kara Isdali, June 17 to 24, 17 cases, 4 deaths, Jumurtalik June 18 to 24, 1 case 1 death, Bulanik, June 21 to 22, 5 cases, 5 deaths, Messina, June 28 to 29, 3 cases, 2 deaths, Marasch (Vilayet Aleppo), June 10, 2 cases, June 18 to 30, 25 cases, 17 deaths, Djabul, June 26 to July 1 15 cases, 7 deaths

Arabia Mecca, June 9 to 14, 17 deaths, no new cases from June 15 to July 1, Taif, June 19 to 21, 24 deaths (*Also 17 cases and 16 deaths among 906 Arabian pilgrims who had arrived at Camaran on board the* S S *Memphi*)

SOCIETY NEWS

American Electro-Therapeutic Association —The American Electro Therapeutic Association will hold its fifth annual meeting at the College of Physicians and Surgeons, of Ontario, in Toronto, Canada on Tuesday, Wednesday and Thursday, Sept 3 4 and 5, 1895

Dr Emil Heuel, Secretary
352 Willis Avenue, New York city, U S A

Minnesota State Medical Society —The twenty-seventh meeting of this Society was held at Duluth, Minn, June 19 to 21 The following officers were elected for the ensuing year President Dr Frank Allport, Minneapolis, First Vice-President, Dr J H Dorsey, Glencoe, Second Vice President, Dr E Y Chilton, Howard Lake, Third Vice President, Dr D N Jones, Gaylord, Secretary, Dr Ignatius Donnelly, St Paul, Treasurer, Dr Richard J Hill, Minneapolis

American Association of Obstetricians and Gynecologists —The eighth annual meeting of this Association will be held at Auditorium Hotel, Chicago, Sept 24, 25 and 26, 1895 The preliminary program is as follows 1, President's annual address, J Henry Carstens, Detroit 2, Relation of pelvic suppuration to structural changes that may occur in the Fallopian tubes, A P Clarke, Cambridge 3, Nephrorrhaphies, George Ben Johnston, Richmond 4, Detached fibroids, George H Rohé, Catonsville 5, A clinical contribution to lateral displacements of the uterus, Edward J Ill, Newark 6, Appendicitis, A Vander Veer, Albany 7, Intermediate treatment of puerperal sepsis, A B Miller, Syracuse 8, Kraurosis vulvæ, a contribution to its pathology and therapeutics, H W Longyear, Detroit 9 Report of three recent cases in gall bladder surgery, Edwin Ricketts, Cincinnati 10, Subject to be announced H E Hayd, Buffalo 11, Intestinal obstruction following peritoneal operations, A H Cordier, Kansas City 12, Subject to be announced, S Y Howell, Buffalo 13, Cure of tubal distension without laparotomy, J A Glasgow, St Louis 14, Subject to be announced, W B Dorsett, St Louis 15, Subject to be announced, C C Frederick, Buffalo 16, Hysterectomy in bilateral diseases of the appendages, giving remote results, Florian Krug, New York 17, Discussion Vaginal hysterectomy *vs* Abdominal section for pus tubes (*a*), title unannounced, (affirmative,) X O Werder, Pittsburg (*b*), when shall hysterectomy accompany bilateral removal of the appendages? Reuben Peterson, Grand Rapids (*c*), pathologic and surgical contra indications of the vaginal route in dealing with puriform diseases of tubes and ovaries, Joseph Price, Philadelphia (*d*), title unannounced, (affirmative,) Geo H Rohé, Catonsville 18, Discussion *Eclampsia gravidarum* (*a*), etiology, Frederick Blume, Allegheny (*b*), pathology, George F Hulbert, St Louis (*c*), title to be announced, W H Taylor, Cincinnati (*d*), prophylaxis, H W Longyear, Detroit (*e*), puerperal convulsions *vs* Insanity W P Manton, Detroit (*f*), treatment, J M Duff, Pittsburg, A H Wright, Toronto, Thomas Lothrop Buffalo 19 Exhibition of various types of rectal papillæ, R T Morris New York 20 Subject to be announced, E Arnold Praeger, Los Angeles, Cal 21, Ruptured interstitial pregnancy, L H Dunning, Indianapolis 22, Has gynecology received just recognition as a specialty? M B Ward, Topeka 23, Indications for operation in puerperal sepsis L S McMurtry, Louisville 24, Pneumo peritoneum, James F W Ross, Toronto 25, Subject to be announced J B Murphy Chicago 26, Subject to be announced Charles A L Reed Cincinnati 27, Subject to be announced, M Rosenwasser Cleveland

The regular program will be issued September 1

J Henry Carstens, President
William Warren Potter, Secretary

NECROLOGY

Levi D Miller, M.D, of Newton, N J, died July 21 He was one of the oldest and best-known physicians in Sussex County, and was a graduate of the College of Physicians and Surgeons, New York, in the year 1855 He practiced medicine for twenty-seven years was surgeon of the Fourth New Jersey Regiment in the late war, a member of the Grand Army and Legion of Honor, and secretary of the Sussex County Medical Society

Ezra Graves, M.D of Amsterdam, N Y, died July 1, 1895, aged 56 years He had served as coroner of Montgomery County, and also as city physician of Amsterdam He was a graduate of the Buffalo Medical College, of the class of 1865 A widow survives him

William C Jarvis M.D, professor of diseases of the throat at the University of the City of New York, July 30 ——Henry Shimer, M D, of Mt Carroll, Ill, July 30, aged 65 ——Walter C Overstreet Jr, M.D., of Monmouth, Ill ——Solomon C Salter, M D, of Lena, Ill, August 1, aged 64 ——J W DeHoog, M D, of Chicago, August 1 ——C Plummer, M D, of Wooster, Ohio, July 27, aged 74 ——Harlow Williams, M D of Centerburg, Ohio, July 27 ——Sheppard Lowrey Van Valzah, M.D, of Milton, Pa, July 28, aged 59 ——L S Zeiner, M D, of Easton, Pa, July 27

MISCELLANY

Dr S Weir Mitchell of Philadelphia, has been honored with the degree of LL D, conferred upon him by the University of Edinburgh As he has this title from another university, he is now, indeed a double LL D

Large Charitable Bequests at Hartford —The will of Mrs Sarah Tuttle of Hartford, Conn, gives $10,000 to the Old People's Home, $5,000 to the Hartford Hospital, $5,000 to the Hartford Orphan Asylum, $6,000 to the Larrabee Fund, $2,000 to the Union for Home Work, and $1,000 to the Church Home

Condensed Milk Swindlers —A recent report by Dr Bernard Dyer, Public Analyst, and Mr Cassal, made to the *British Medical Journal* shows that of seventeen samples examined, fourteen are prepared entirely from skimmed milk It is a source of pleasure to note that of the brands of milk examined none were from American manufacturers

A New Professor of Bacteriology in the University of Minnesota —F I Westbrook, an instructor in bacteriology at Cambridge University, England, has been elected to a similar position in the College of Medicine and Surgery University of Minnesota His duties will be assumed with the completion of the new laboratory building in October

College of Physicians and Surgeons —Dr Bayard Holmes, Librarian of the College of Physicians and Surgeons of Chicago, requests all authors who have reprints made of their articles to send a copy of each to the Library 813 W Harrison Street, Chicago Each reprint will be put in a stiff cover and treated in the catalogue as a book

The Neanderthaloid Man of Java —The discovery in Java, by Dr Dubois, a surgeon in the Dutch-Indian Army, of the remains of prehistoric man has now been fairly well discussed by the anatomists of two continents Prof A S Packard, of Dartmouth College, has given in the *Independent* a digest of the opinions, concerning this discovery, by some of the chief of the authorities in anthropology

Can Correct Registration of License —Where, instead of registering his license as a physician with the county clerk, as required by law, a physician filed it with the Board of Health, the general term of the New York Court of Common Pleas holds (Mayor v Bigelow, June 3, 1895) that due registration made after suit had been begun to recover the penalty imposed for a failure to make proper registration, but before trial, was a defense to such action for the penalty

University of Pennsylvania —This institution has invited Dr John S Billings, U S A, to take its professorship in hygiene It is stated that he has accepted the offer to take the position before many months, after he shall have completed his mammoth undertaking, the Index Catalogue of the Army Library It is reported that a subscription paper is in circulation, for the benefit of Colonel Billings, as a substantial recognition of his labors in the interest of medical science

An Enterprising Midwife —A French contemporary[1] clips the following "ad" from *L'Independance Bretonne*, which shows the thrifty spirit of the French peasantry "Mdlle Guezennec, oyster culturist at Lezardrieux, has the honor to make known to the public that her oysters will be sold in the Halls of St Brieue every Friday There will also be a depot in the Hall of Guingamp the first of next April Moreover, Mdlle G always practices her profession of midwife of the first class and places herself at the public's disposal"

Postponed to 1896 —It has been decided by Dean Smith of the Yale Medical School that the lengthening of the course shall not take place this year as was originally the plan, but will go into effect September, 1896 This fall's entering class will be the last to take a three-years' course, b ning with the class entering in 1896 a four years' course be required Several important changes are announced the faculty of the Medical Department of Yale Dr Charl Bartlett, Dr Louis De Forrest, and Dr H L Swain h been added to the list of professors, and Assistant Pro sors T Osborn, H B Ferris, and Graham Lusk have be promoted to the positions of professorships in full

Reports of Committees —The *British Medical Journal* of Jul 27 is largely devoted to the reports of the regular and committees of the British Medical Association, intended be presented at the annual meeting It appears that the re lations for the conduct of annual meetings require that all ports of the committees of the Association shall be printed in the *Journal* before the annual meeting Our own Association might wisely adopt this plan, the benefits of which are so obvious as scarcely to need enumeration One point in its favor is that by this plan every member has ample opportunity to become familiar with the reports and to prepare intelligently for their discussion should he so desire Notices of motions are also similarly printed in advance in the *Journal*

Hanson's Bacillus in the Blood of Leprous Patients —Fischiell has instituted a series of experiments to determine under what conditions we may find Hansen's bacillus in leprous blood He has arrived at the following conclusions (a), positive result in blood from an incision or puncture near a leprous tubercle (b) a uniformly negative result in blood taken at some distance from the leprous manifestations, (c), negative result in leper's blood submitted to treatment by Koch's lymph, in the blood of tuberculous patients treated by Koch's lymph we may, on the contrary, find the tubercle bacillus, which ordinarily is not found in the blood, (d), by injecting leprous bacilli into the blood of rabbits the author found that they disappeared about ten hours after inoculation

"Struck the Keynote"—Commenting editorially on what it styles the most excellent article of Dr Julius Kohl of Belleville Ill the Physician of the Past, the Present and the Future—A Definition of His Social Position, published in this JOURNAL June 22, 1895 the *Medical Review* of the 3d inst says 'Dr Kohl advocates a thorough classical education and examination by the State before a student is admitted to any medical college A student equipped with the knowledge required by such an examination, is too intelligent to allow himself to be 'taken in' by the bogus medical colleges so that the latter would be compelled to close their doors The idea is a most practical one, and Dr Kohl does by no means stand isolated in his views upon this subject He has struck the keynote and suggested the only remedy against bogus colleges, the cancer of the medical profession He has applied his ax to the roots of this malignant growth'

Tuberculosis of the Cecum —MM Pilliet and Thiery state that tuberculosis localized in the cecum may be disseminated in several directions and it is useful to know these in order to judge the contra indications for operating 1, by the peritoneum, this may be slow, localized and of but little gravity, the peritoneum enveloping the tumor is generally adherent to it and we know from this that the tumor and the intestinal wall form one mass 2, by the intestines, the majority of the lesions are descending, the maximum found at the end of the cecum, thence tapering off into the colon, the small intestine, contrary to the usual opinion, but rarely affected 3, by the ileo-cecal glands, when we observe sometimes an infection of the mesenteric and me colic glands, sometimes an infection of the vertebral gland reaching to the diaphragm, exploratory laparotomy will enable us to ascertain which condition is present 4, by the iliac glands, this form is usually accessible to the touch and constitutes a contra indication [1]

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[1] Le Progres Medical, July 6, 1895

[1] Rev Int de Med et Chir Prat, 1895, No 11

Veterinary Surgeons must Prove Qualification —A physician, surgeon or dentist, it has been said, undertakes in law to supplement his reasonable care and honest endeavors with ordinary professional skill The same is true, according to a decision of the Supreme Court of Michigan rendered July 2, 1895, in the case of Conkey v Carpenter, of a veterinary surgeon, because it requires education to be able to treat diseases of dumb animals as well as diseases of men There is no presumption of qualification A "quack," without education or experience, employed upon the representation that he is a qualified veterinary surgeon, can not recover for services Professional employment stands upon a different basis from other businesses It is, therefore, the common practice, when a professional man sues for services as such, to prove his qualification This is done by showing his admission to practice under the statute, his graduation from some reputable college or school, or his study and experience, if his right to practice is not regulated by statute

Pneumonia a Disease —By the terms of a certain insurance policy, if the death of the insured was from "pulmonary disease," the beneficiary could recover only $32 50, otherwise she would be entitled to $65 The insured died of acute lobar pneumonia conceded to be a pulmonary affection, but denied by the beneficiary to be a disease Strangely enough she found an "expert" to testify and a judge to decide that a mortal pneumonia was not a disease In reviewing the case on appeal, the general term of the Court of Common Pleas of New York city and county says (Kiernan v Metropolitan Life Insurance Company, June 3, 1895) it hardly consists with judicial gravity to argue against a proposition of which the absurdity is self-evident, which involves at once an affront to common sense, a misconception of the plain sense of a plain word, and a contempt for the uniform and universal signification of scientific nomenclature That pneumonia is a disease is a notorious fact, and so a fact of judicial cognizance As the court takes notice of the fact, no proof of it was requisite, and no issue could be joined upon it In support of these points the court cites a number of authorities, and modifies the judgment to $32 50

Clinical Results of Double Castration.—In summing up the results of 111 cases of the operation for the relief of senile enlargement of the prostate, as proposed by Dr J William White about two years ago, the author says[2] that the theoretic objections which have been urged against the operation of double castration have been fully negatived by clinical experience, which shows that in a very large proportion of the cases (87 2 per cent) rapid atrophy follows the operation and disappearance or great lessening in degree of long standing cystitis (52 per cent), and that more or less return of the vesical contractility (66 per cent), and a return of the local conditions not very far removed from the normal (46 4 per cent) may be expected in a considerable number of cases The deaths have been 20 in 111 cases (18 per cent), excluding those cases which died from uremia alone the mortality is 7 1 per cent It may be interesting to note that the desperate cases which make up the series of deaths showed improvement of symptoms or shrinkage of the prostate before they died Comparison with other operative procedures seems to justify the statement that, apart from the sentimental objections of aged persons on the one hand, and the real, entirely natural and very strong repugnance to the operation felt by the younger patients, castration offers a better prospect of permanent return to nearly normal conditions than does any other method of treatment

Fake Patent Medicine Men —From the *Minneapolis Journal* we learn that fake patent medicine men are working the country districts in the vicinity of that city quite successfully They sell their medicine and take the farmers' notes in payment, the notes returning for payment in a much different form from that in which they were signed Deputy Sheriff Megaarden received a letter from C W W Dow, of the Interstate Sheriffs' Association, recently, giving the following description of a man who gives his name as H Miller and who purports to represent a Buffalo Medicine Company "He is working among the farmers, taking their notes and discounting them He is described as follows Height about 5 feet 6 inches, age about 45, perhaps 50, dark hair, but bald in front and on top of head, a trifle gray, dark eyebrows, had no mustache, may have now, dark complexion, Jewish cast of features, nose slightly Roman, weight about 160, talks broken English, and claims that he can not write English—has his victim do the writing Had on a black or brownish derby hat, dark coat and vest, laced shoes He hires a team with a driver, and has driver witness signatures Had three grips with him He has operated in southern Nobles County, Minnesota, about June 6, 7 and 8 Last seen at the depot at Little Rock, Iowa" The police are warned to be on the lookout for Miller

Failure of Emmerich's Antitoxin of Carcinoma —The Berlin letter of the London *Lancet*, for July 13, refers to the acrimonious debate that has been had in the Berlin medical journals over Emmerich's treatment for cancer The letter gives a brief description of the present status of the discussion, as follows

> "The article communicated by Professor Emmerich and Dr Scholl to the *Deutsche Medicinische Wochenschrift*, which was mentioned in my letter inserted in *The Lancet* of May 4, was received here with general skepticism That this feeling was justified is now proved by the published observations of Professor Bruns (Tübingen), and Professor Augerer (Munich) Professor Bruns was quoted by the authors as vouching for the efficacy of the treatment, but he now states that in no instance was a curative effect remarked, while in some cases the general state of the patients was very unfavorably influenced Cardiac trouble and raising of the temperature were very frequent and must have been due to a septic condition of the fluid To this suggestion, Professor Emmerich answered that the antitoxin was originally aseptic and must have been spoiled by Professor Bruns or his assistants Professor Bruns replied that the fluid was examined immediately after its arrival in the bacteriologic laboratory of the University, and numerous streptococci were found in it Professor Augerer stated that two of his cases were attacked with real erysipelas during the antitoxin treatment The controversy between Professor Emmerich and his opponents sometimes assumed a very personal character and continues to fill the columns of the medical papers The general impression is that the real carcinoma antitoxin has not yet been discovered"

Not Liable for Mutilations by Post-mortem Examinations —A widow brought suit to recover damages from the coroner who ordered, the physician who conducted and the college which furnished a room for, the post-mortem examination of her deceased husband, on account of the alleged wrongful mutilation of the body and its unlawful detention from burial when demanded for that purpose The damage alleged to have been caused by those acts was great mental excitement and distress and bodily suffering on the part of the widow Death occurred in the Baltimore City Hospital one day, after the man, a brakeman had had his right leg mashed below the knee The college in question supplied the medical and surgical service to the hospital, and the coroner who ordered the post-mortem examination and the physician who made it were connected with the college symptoms are obtained has already been demonstrated In my paper of last May there are reported twenty-two patients who were suffering from chronic pelvic inflammatory disease, upon whom I had performed hysterectomy In that report I said "Of this number all recovered from the operation, and the great majority have been cured My highest mortality in the past has always followed removal of the appendages in this same class of patients At no time have I been able to pick out anything like twenty-two successive successful double ovariotomies in cases of the same character as those upon whom I have found it advisable to perform hysterectomy Not only has hysterectomy, in my hands, lessened the mortality very markedly, but it has rendered the convalescence infinitely smoother, easier and more satisfactory"

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[1] Gaz Med de Paris No 27 1895

[2] Annals of Surgery July, 1895

At the present time, I have twelve more to add to the list, making in all thirty-four cases without a death

In addition to my own cases, I may submit in evidence the work in this same direction by other operators to date Baldy, 34 cases, no deaths, Kelly, 70 cases, no deaths, Polk, 20 cases, 1 death, Pryor, 9 cases, no deaths, King, 65 cases, 4 deaths, Penrose, 25 cases, 1 death—making a grand total of 223 cases with 6 deaths, a mortality in the hands of six operators of 2 7 per cent.

What better argument can one possibly offer in favor of any new procedure? A greatly lessened mortality, a surer and more thorough relief of symptoms, an easier and shorter convalescence, a freedom from any possible future disease of the womb! Can there be any who are yet skeptical?

Hysterectomy being determined to be the proper procedure in certain chronic pelvic inflammations, it remains to determine in what cases to choose this operation In this connection, I can not do better than quote *verbatim* from my last paper on the subject

"It is well-known in pelvic inflammation the disease first affects the mucous membrane lining the womb and, secondarily, invades the Fallopian tubes and the pelvic peritoneum In many cases not only is the endometrium affected, but the inflammatory products invade the deeper structures which go to make up the uterine walls These infiltrates undergo the same changes as do the same elements in the walls of the Fallopian tubes whether it be suppuration or partial organization, in either case the process is apt to become a permanent one

"With Fallopian tubes and uterus, both of which are diseased by the same factor and to the same extent, is it reasonable to suppose that a cure is to be always obtained by the removal of the tubes alone? Theory and practice both combine in this matter to force the conclusion

"It must not be understood that the removal of the uterus together with the Fallopian tubes and ovaries is recommended in all cases of pelvic inflammatory disease I am forced to dissent at this point from the views of some other surgeons with whose opinions in other respects I am thoroughly in accord In many cases the uterus, possibly on account of its anatomic relations which are so favorable to good drainage, has succeeded in throwing off the original infection and is comparatively healthy, if not entirely so Under such circumstances, hysterectomy is not indicated But where an abdominal section has been performed for the removal of the uterine appendages and the womb is found enlarged and diseased, especially if it has been surrounded by extensive adhesions, the destruction of which leaves large areas of denuded peritoneum, hysterectomy should be the operation of choice Even when the uterus is not greatly diseased, if during the course of the operation it be largely denuded of its peritoneal covering, it is best to complete the operation by its removal

"The sole objection which could be urged against this procedure is an increased mortality, but, since this has been proved fallacious, opposition from any standpoint must necessarily be withdrawn It is freely granted that in accepting this practice, uteri will often be removed which might safely have been left behind Even in the face of this possibility the procedure is fully justified, in view of the possibility of future harm on the one hand and the certainty of no extra risks on the other

"The decisive *pro* or *con* is at times a difficult one at the time of the operation, in which case the patient should be given the benefit of the doubt and the uterus should be removed In all cases it is assumed that both ovaries must of necessity be sacrificed Except in the presence of malignant or tubercular disease, the womb should never be disturbed if even a portion of one ovary and a Fallopian tube can be preserved Nor is an operation to be extended to the performance of hysterectomy, where the double salpingo oophorectomy will even temporarily answer the purpose, should the patient be in such condition that the prolonged manipulation might render the result of a given case doubtful Common sense must be used in the application of this principle, as in all other surgical procedures"

VAGINAL HYSTERECTOMY FOR SUPPURATIVE DISEASE AND ITS RESULTS

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10, 1895

BY I S STONE, M D
WASHINGTON, D C

Since we have found that the uterus may be removed by the vagina with less shock to the patient than by the abdominal method, we may consider the operation of abdominal hysterectomy as well applied to other diseased conditions than cancer, for which the operation was first designed

Dr Engleman has well set forth the historical facts in papers recently published (Trans Southern Surgeons and Gynecologists' Association, 1893–94) The uterus has been successfully removed so often for cancer by various surgeons as to no longer admit of doubt in any respect as to its low rate of mortality, or the vast number of complete and permanent cures[1] This satisfactory result has induced the writer in common with many others, to remove the uterus and the adnexa by the vaginal route for the following reasons

1 In cases where partial hysterectomy had been done by the supravaginal method, leaving a sinus or fecal fistula

2 Where operations have been performed for salpingitis or purulent collections within the pelvis,

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[1] The writer has only one return of the growth in his experience a case in which the bladder was involved at time of operation The patient, however, is still living in comparative comfort, although slight return nearly three years after operation

leaving extensive adhesions and often an irritative endometritis and vaginitis

3 In sepsis of the uterus (septic metritis) as after abortion, etc

4 In purulent collections outside the uterus, pelvic abscess especially when the disease is extensive

This classification indicates the evolution of the operation in the writer's hands Every operator of experience must have encountered difficulties when he attempted to deal with fecal fistula or old sinuses after operations for pus, when there may or may not be tubercular disease of the region involved I have myself encountered peculiar and insurmountable difficulties on a second opening of the abdomen in such cases For these conditions the writer finds in vaginal hysterectomy a solution of the problem, and to which he resorts with the utmost confidence

The second class of cases also affords a degree of comfort to the operator, and relief to the patient in no other way so safely and satisfactorily obtained In a large number of these cases the uterus was intensely septic when the tubes and ovaries with their purulent contents were removed Adhesions must frequently follow in the wake of such conditions, giving pain to the patient and at times anxiety to the surgeon

In addition to these results of operations for disease outside of the uterus, we occasionally find patients who after an ideal operation do not have a satisfactory recovery They may continue to menstruate They may have a decided endometritis and vaginitis I have had my share of these cases, and without hesitation advise hysterectomy to complete the cure, for I know of nothing more annoying than these post-operative symptoms which have their origin chiefly within the uterus, and which no amount of local treatment will cure

In the third class we must likewise give the preference to the vaginal method for many reasons 1, because of less traumatism and consequently less shock to the patient, 2, because the time required is less, and because we can secure thorough drainage, and if necessary we can complete the operation without prolonged or profound anesthesia The abdomen must always be closed with the patient under profound anesthesia if we would avoid all danger of catching the omentum or loops of bowel in the sutures, as may happen at the close of the operation, especially if the patient vomit In many cases we may be in doubt as to the extent of sepsis outside the uterus and here we can remove diseased adnexa, or separate intestinal adhesions, with the positive certainty that only good can follow such surgery, if indeed any surgery can save the patient In a recent case I lost a patient after supravaginal extirpation of the uterus when the vaginal method might have succeeded, in a case of sepsis following abortion The vessels of the broad ligaments were loaded with thrombi, plainly seen at the time of the operation The case was exactly parallel to one reported by Dr Baldy in the *New York Journal of Gynecology and Obstetrics* for March My patient, like his, developed croupous pneumonia, and died two weeks after the operation In my case I made a very unfavorable prognosis, and the patient died, as I predicted, of pneumonia Dr Baldy says his patient would have recovered but for the pneumonia, I was not so sanguine about my own case It is worthy of note that these two cases, reported so nearly at the same time, should have died of croupous pneumonia and not septic or pyemic embolic pneumonia In view of this, and other reasons, I shall hereafter regard the vaginal route as offering many advantages over the abdominal in such cases

Lastly, we shall consider the removal of the uterus for the purpose of entirely eradicating septic foci from the pelvis of women who have had gonorrheal or other sepsis which has extended into tubes and ovaries or even beyond this limit When Dr Baldy read his paper in Washington before the American Gynecological Society in 1893, I was not prepared to take this step, for the reason that I could not believe so many uteri were the seat of septic disease in the body of the uterus itself I was confident that the endometrium was almost entirely and alone the seat of the disease A curetting ought to cure this, and I argued that if we sealed up the cornua of the uterus, no further infection of the peritoneum could or would probably occur But increasing experience has shown that the position assumed by Dr Baldy and others is right, at least in a majority of cases If we examine uteri removed in operations for purulent collections in the pelvis, we will often find abscesses in the uterine wall These pus collections may give the appearance of small fibroids under the peritoneum, and even with the uterus in my hand in one case, I was about to demonstrate to visitors a small fibroid, and found an abscess containing one-half drachm of pus

In conclusion, then, the writer would in many pus cases, and especially where we have very ill patients and extensive suppurative disease, suggest a trial of this operation In the technique of the operation I can not yet follow our German and French brethren, who so confidently resort to the morcellement operation, and use the forcep clamp to the exclusion of the ligature But I do find the operation wonderfully facilitated by amputation of the lower third of the uterus, as soon as the broad ligaments are separated thus far The fundus uteri can then be readily turned forward, and the operation at once becomes simplified and facilitated, because it is completed in full view, permitting the separation of remaining bowel adhesions with the help of the sight added to that of touch

Of one feature of the new operation I can not speak with experience The pus sacs, according to Jacobs, may be left and merely washed out and packed with gauze, this gauze to remain four to six days This feature is repugnant to my taste, and not in accord with surgical experience To remove the uterus and leave these pathologic and wholly useless organs appears unsurgical We are told that actual results show the innocuousness of these pus sacs if properly drained Again, in nearly all the cases where gauze packing is used, and comes in contact with peritoneum, we will find it firmly adherent in twenty-four to forty eight hours, and requiring decided force for its removal Hence many surgeons are avoiding the use of gauze for drainage It surely drains for a short time only, and then it becomes an obstruction to drainage, and when removed denudes the peritoneum over the intestine or elsewhere of its epithelium and invites the formation of adhesions

After reciting these reasons for extirpation of the uterus, we may well ask, Why not remove the uterus in all cases where it is now only useless, as without the appendages, but is also dangerous when it is the seat of numerous abscesses We may therefore conclude that when the uterus is to be extirpated for any purpose, the vaginal route is to be preferred to the abdominal There is less danger of peritoneal infection, less traumatism and shock, and the resulting cicatrix is not a permanent source of annoyance to the patient The writer confidently asserts that in the future there will be relatively more vaginal and fewer abdominal extirpations of the uterus for pelvic disease

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INDICATIONS FOR TOTAL HYSTERECTOMY

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore Md May 7-10, 1895

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I can vividly recall to mind the able discussion which took place at Washington in 1887, during the meeting of the Ninth International Medical Congress, on the subject of extirpation of the uterus for relief of carcinoma Since that time my attention has been more particularly directed to the subject

At the time that the treatment of cancer by extirpation of the uterus was brought before the congress, I felt that the advocates of the measure had taken an advanced step We all now recognize that the various procedures necessary in abdominal surgery have been more carefully considered and that the individual experiences have tended to do much toward placing that kind of work on a firmer basis So far as statistics are concerned, as to the results of the different cases treated, they can not afford any very definite help, for in dealing with any case in which hysterectomy is indicated we shall find that the result will depend on many and often upon diverse factors, often upon the individual skill of the operator, upon a wise selection of the case, careful discrimination and accuracy of diagnosis, upon a full appreciation of the fact that the morbid process to be relieved is the chief offending cause of the illness, and that there is not some more obscure and dangerous lesion that may give rise to the suffering Assuming that these conditions have been met, the success of the case may often depend upon the facility with which the method of technique can be carried out

The results achieved by the method of operating by the employment of the hysterectomy staff have led to the consideration of the use of other means for overcoming the difficulties encountered in a total hysterectomy We are still more fortunate in having brought to our attention the perfection of other devices, the proper employment of which can greatly facilitate the most difficult part of the operation and give assurance that the entire cervix in a vagino-abdominal hysterectomy may be removed without incurring danger to the paracervical structures

By means of the intra-uterine stem attached to a disk or cap, as a center for hermetically sealing the parts from the foci of infection, and also of a staff to assist in elevating the uterus and the morbid mass to be extirpated, as devised by my friend, Dr A H Tuttle, we are enabled to remove by total hysterectomy many tumors, neoplastic developments, and to relieve other conditions that have been deemed most difficult to overcome by the older operative measures From the help that may be thus gained, and from experiences in other directions, it is not unsafe to say that total hysterectomy is indicated, *cæteris paribus*, in cases in which the uterus may be in a position opposite to that of prolapse and in such a state of immobility, superinduced by previous inflammatory processes affecting the adnexa and producing such adhesions of those parts, as to necessitate for relief operative interference In an operation for overcoming the adhesions, it will be found that the appendages, by the previous morbid condition that had been set up, have undergone destructive degenerative changes In deciding in such cases that total hysterectomy should be attempted, the question of moral consideration will not be involved, for the reason that the uterus itself will in all probability be found to have lost its functional activity By the facility with which the whole organ can be removed by the operator's adopting the improved methods of technique, the dangers usually attendant on the carrying out of such radical measures will be greatly lessened

Total hysterectomy should be had recourse to in cases of rapidly growing interstitial fibroids, or in cases of large subperitoneal growths developing from a broad sessile base The operation is indicated, not only from the hemorrhage which they occasion, but also from the pressure which may take place upon the surrounding parts, and from the obstruction they may produce in the vascular tissues in the abdominal and pelvic organs Palliative measures of treatment, including employment of electricity, may be helpful in overcoming hemorrhage, but the adoption alone of such a course of procedure must necessarily prove disappointing The importance of resorting to total hysterectomy will be appreciated when the real history of the degenerative processes of such tumors has been more carefully considered

If a large and rapidly growing fibroid should take on a retrograde process, either spontaneously or through the influence of regular and systematic treatment by electrolysis, or otherwise, the positive ultimate dangers arising from the presence of such a growth will be far from being wholly removed, for in such a stage, when the patient is seemingly improving, the morbid growth may afford a culture chamber into which other disease cells may migrate and then undergo a malignant degeneration In such a condition, total hysterectomy is the only expedient that will afford a complete and permanent cure A fibroid tumor developing in the interstitial and parietal portions of the uterus may so extend as to involve the entire body of the organ, overlapping and inclosing in large measure the adnexa, and taking a downward course, include and bury the cervical structures also In this condition the morbid growth involving the uterine structures may elevate itself from the lower pelvic cavity and thus afford a greater facility for removal through an abdominal section This was the special feature in one of Dr Tuttle's cases, to which I was also called, when total hysterectomy was accomplished by a vagino-abdominal incision

The removal of a fibroid should not be deferred because it appears, or is first observed, at or near the menopause, for it is not infrequent for such a tumor to continue to develop long after the occurrence of that period, and it may assume all the phases and present all the untoward results that are attendant on one that has had an earlier beginning Treatment of fibroids by a resort to salpingo oophorectomy, to say the least, is of doubtful utility, this method for awhile may give seemingly beneficial results When it does so, it is evidently because the growth is principally sustained by the ovarian artery, in other cases the results following this method are so unimportant that an operation would seem to offer but little advantage There are undoubtedly many cases of fibroids in which the nourishment is at certain periods of their growth derived chiefly from the uterine artery There are also cases of uterine myomata, in which the physical condition of the patient will not warrant a resort to hysterectomy In this class of cases the method adopted by our President, Dr Franklin H Martin, of ligating these vessels has proved to be of considerable service With our advanced knowledge, however, of the pathology of these neoplasms, and with our increasing experience and achievements in abdominal surgery, we should not advise a woman who is comparatively free from disease, except from the effects which a fibroid may have occasioned, to rest content with merely submitting to such an uncertain surgical measure

A nodular fibroid of the slower growth should not be regarded with unconcern, for the pressure that may be made by the mass upon the surrounding parts, and especially upon the ureters, may cause chronic edema and finally contracting kidney, as did once occur in one of my own cases, in which the autopsy showed that had the growth been removed the renal lesion would undoubtedly have been avoided and the patient's life been saved In this connection it might be remarked that the effects of pressure are to be considered, aside from malignancy, as among the most baneful influences that are attendant on the presence of uterine and ovarian tumors Uterine myomata in all their various stages call for removal, this should be effected as early as possible In certain cases the curette can be advantageously employed, if this method is unsuccessful, hysterectomy should be the next surgical expedient In one case in which a multilocular fibroid appeared, there was but little enlargement of the uterus Hegar's method for removal of the uterine appendages was performed by a distinguished surgeon resident in another State, the patient, however, did not recover until after the lapse of six years, when she submitted to total hysterectomy

The ordinary methods of treatment of the more extended forms of adenoma frequently prove unavailing The study of the pathology of adenomatous formations shows that the hypertrophy of the glands of the lining membrane often extends throughout the entire cavity of the mucous lining When a uterus has once been affected with this kind of morbid process and the condition does not speedily yield to curettement and to other milder measures of treatment, a more radical course should be instituted Total hysterectomy offers the best advantage for permanent relief After sarcoma in any part of the uterine system has been suspected to exist it should be an indication for action, its malignant nature and its unfavorable tendencies when viewed according to the present light afforded by the pathologic history is unquestioned As in the early stages of cancerous disease, before the para-uterine tissue has become involved in the morbid process, so in sarcomatous developments partial removal by the supra-vaginal method will prove inadequate, nothing less than total ablation of the uterine tissue, including the entire cervix as well as the fundal portion, should for the most part be deemed sufficient for a cure

The question has been asked, Should hysterectomy be resorted to for ovarian tumors? In answer to this it may be stated that carcinoma appearing in the ovary is almost always dependent upon the disease previously occurring to some extent in the uterine tissue Not long since I was called to a case in which the adnexa had a year before been removed for what then appeared to be a malignant condition of those parts Since that time the uterus and the parametrian tissue had become extensively involved Had total hysterectomy been carried out at the time of the first operation, before the cancerous elements had advanced, the patient could undoubtedly have been saved According to later observation and experience, sarcomatous developments occurring in the ovary should be promptly removed, this can best be effected by total hysterectomy When papilloma and fibroma occurring as ovarian tumors are recognized at an early stage of their existence, and before they have extended downward to the neighboring tissues, they should be thoroughly and promptly removed, even if it has to be done at the sacrifice of the uterus and its appendages

It should be here stated that carcinomata and sarcomata in all their various forms call for immediate and thorough removal as soon as a diagnosis of the condition can be made Experience, however, shows that the results following the removal by hysterectomy of a sarcomatous growth, when the operation is undertaken in a late stage of its existence, will prove to be more satisfactory than will those that may be attendant on the removal, by this method, of a cancerous mass at a similar stage of its existence

Total hysterectomy is absolutely necessary for uncontrollable prolapse, after anterior and posterior colporrhaphy and other plastic operations have been repeatedly tried, but have failed to produce permanent relief In such cases the vaginal method is the operation to be preferred Total hysterectomy is the only safe surgical expedient to be adopted in cases of hemorrhagic polypi which present suspicious microscopic appearances after removal, and which leave as a result an enlarged uterus, as may be determined by palpation or by the sound

Hysterectomy is called for in ectopic pregnancy, in such cases the hemorrhage can be more safely controlled, and the patient is enabled to make a more rapid recovery than by the other methods of procedure This method of treatment should be undertaken in ovarian abscess, in pyosalpinx, in old inflammation of the appendages, in a post-clinical severed uterus which has been productive of pain and has been a source of disablement The operation should be resorted to in all suspicious diseases of the adnexa and in cases of large cysts, as well as in papillomatous developments and in otherwise irremovable cysts and intraligamentous fibroids and tumors of the broad ligaments

Later experiences show that total hysterectomy can be accomplished with as little danger as may be attendant on many other important surgical measures When properly performed, there is often but little tenderness left about the vicinity of the broad ligaments When done in ectopic pregnancy, in ovarian abscess in pyosalpinx and in purulent liquifaction of a uterine fibroid better drainage can be established On the other hand, when the uterus or ovary of the other side is put on the stretch, and a row of sutures passed below the ovary from close to the side of the uterus to the free margin of the ligament, so as to include the ovarian artery This line of sutures is inserted by means of a perineal needle, is taken like a shoemaker's stitch, but each stitch—which includes but a small amount of tissue—is drawn tight and secured by taking a turn of the loose end of the suture about the other, so as to form a series of single knots The uterus is then pulled over to the other side, and the remaining tube, ovary, vessel and ligament secured in the same manner The ligaments are cut away above the ligatures, and between the points of their excision, across the uterus in front and back, about an inch above the attachment of the bladder anteriorly, and an inch above the cervix posteriorly, the peritoneal covering of the womb is incised With the help of a scalpel handle, the bladder and peritoneum are now rapidly dissected up from the uterus in front until the line of former vaginal dissection is reached, the posterior layer of peritoneum is treated in the same manner, the sides of the uterus are freed from peritoneum as much as possible when the lateral attachments, including the uterine artery, can be easily clamped, and the organ cut away, and removed In cutting away the uterus keep as close to that organ as possible

During the dissection an assistant holds up firmly the uterus by means of the staff which shortens and defines the neck, and enables the operator to quickly and easily perform what is usually the most difficult part of the operation, the enucleation of the cervix An uterine stem is then selected, according to the length of the cervix and size of the canal, with a soft uterus and large easily dilatable cervix, one with a wide thread is used, but with a cirrhotic organ, one with a fine thread or even smooth stem is preferable

The uterine stem is inserted and forced into place, after filling the cap with iodoform either by simple pressure, or in case one with a thread is used, by turning it up with a screw-driver, at the same time holding the cervix firmly by means of tenacula forceps fixed into the anterior and posterior lips If the case is one of cervical cancer the stem must be inserted before any incision is made, and the contents of the uterus and infective parts tightly sealed by sewing the vagina to the edge of the metal cap with sutures taken through normal vaginal structure, and sufficiently remote from the uterus to include all diseased tissue One should then proceed as above described for non-infective cases

It is often advisable to tie a smooth stem into the cervix with one or more sutures to prevent slipping The staff is now inserted into the central cavity of the uterine stem and held in place by an assistant, the parts sponged clean and dry, tampon of iodoform gauze packed into Douglas' pouch, under the peritoneum, and between the cervix and bladder, and the ends of the purse-string-like suture drawn tight and tied, closing in the vault of the vagina below the cervix, gauze and uterine stem, except for a small opening through which the staff passes.

In exceptional cases, already mentioned, not only is this careful toilet of the vagina very difficult or impossible, but unnecessary and time consuming, and should be omitted In these cases it is better to simply make a circular incision through the vagina, free the cervix, and then pack hard about the cervix and the whole vaginal cavity with sterile gauze This elevates the uterus, pushes the ureters further away to the sides of the pelvis, and serves as a guide during the dissection in the abdominal cavity

The gauze packing acts also as a guide, and is of material assistance during this dissection The uterine vessels are firmly ligatured with kangaroo tendon, the clamps removed and all oozing of the blood from the pedicles stopped by suturing The anterior and posterior peritoneal flaps are brought together, the cut edges are turned in so as to bring the serous surfaces into contact, and the stumps containing the ovarian arteries are folded in at the angles so as to become extraperitoneal, the whole being closely united by a line of blind sutures, which when drawn tight are situated outside of the peritoneal cavity All clots are removed by dry sponging, the abdominal wound closed layer by layer with animal ligature, and finally sealed with cotton and collodion

Although ordinarily it is preferable to remove the ovaries, should one or both be found firmly bound down by old adhesions and in a cirrhotic condition, it is better to leave them *in situ* than to delay the operation by such time necessary for their removal They will, as a rule, give rise to no further symptoms, as has been repeatedly demonstrated by vaginal hysterectomy, where often they must necessarily be left behind

When a large multiple fibroid mass is encountered, the topography of the parts must be carefully studied and the position of the bladder and, if possible, the ureters, determined If the growth forms with the uterus a single tumor, the same directions for operating as above described hold good, but where there are several distinct tumors, which are sessile in attachment and appear to have a large pedicle, a sufficiently long cross incision is made through the peritoneal covering, and each tumor is enucleated as far as possible By this means the pedicle will usually be found much smaller than expected, forming a part of the uterine attachment, and easily included in the clamp employed for securing the uterine vessels of the same side Care must be taken in cutting and dissecting back the peritoneal covering not to tear or injure the ureter, the position of which can not always be recognized If it is determined passing over the tumor it should be dissected up and carried to one side with the overlying flap of peritoneum, but if it can not be distinguished, any and all tissue which resembles it should be treated in the same manner, and as the clamps are applied prior to the final abcision, bear in mind the watchword of this operation, *stick close to the uterus*

If upon opening the abdomen, bladder, omentum, bowels, uterus, tubes and ovaries present as a confused and conglomerate mass, firmly bound together by adhesions, the uterus can still be removed subperitoneally, as follows a point is selected on the fundus of the uterus that is not obscured by adherent viscera, and a small cross incision made through the peritoneal covering The edges can then be picked up with forceps, the opening intelligently enlarged without injury to the adherent organs, and the peritoneum dissected from the uterus in every direction, well down on the sides and sufficiently to admit of the easy adjustment of the clamps The organ is cut away, the vessels secured, and the peritoneal openings closed as before, leaving the tubes and pelvis under the peritoneum to drain *per vaginam* In other words, the uterus is removed by the combined method with the same consideration for its surroundings which the French operators have when they extirpate by the vaginal method

The advantages of the vagino abdominal method over the vaginal method are

1 The peritoneal cavity is completely closed, and left with no raw surface for subsequent adhesion with viscera

2 Primary union is the rule and convalescence rapid

3 The subsequent complication of rectocele or vesicocele is avoided

4 The uterine vessels in all cases can be perfectly secured and there is no danger of secondary hemorrhage

5 Abscesses of the tubes and ovaries are more completely removed

Over the abdominal methods

1 Complete subperitoneal drainage can be established

2 The length of time which the peritoneal cavity is exposed is greatly reduced by the previous vaginal dissection, and shock is consequently diminished (A large uterus can be removed in from twenty to thirty minutes)

3 The limits of the cervix are closely defined and the necessary extent of the dissection readily determined

4 The asepsis is more complete and there is less danger of subsequent infection

Over both

1 The dangers of hernia are reduced, vaginal over the vaginal method, ventral, over the extraperitoneal treatment of a constricted stump

2 Danger of injury to the ureters is avoided

3 The manipulation is easier in the most difficult parts of other operations

4 There is less danger of injury to the bladder and other viscera

5 Hemorrhage from the vaginal artery is avoided

6 The operation is practically bloodless

7 It offers a means for removing large uterine tumors with extensive adhesions, which could only be done with great difficulty or not at all by the other methods

8 Its greater perfection of the principles of modern aseptic surgery

Appended are the reports of six consecutive cases, all of which made a good recovery, that illustrate the principles of the method

Case 1—Sarcoma of uterus Vagino abdominal hysterectomy Recovery Family physician, Dr E de la Granja Mrs L W nullipara, several miscarriages, married First seen, February, 1894 Age 60 years, housewife Family history not ascertained Previous history, good health until a few months ago, tumor detected a year ago, later, watery and bloody discharges, progressive weakness, emaciation, attack of la grippe, circumscribed peritonitis, and distress with pressure symptoms Previous treatment with ergot and tonics Present condition extremely weak and nervous, tumor reaching to umbilicus, bloody and watery discharges, emaciated, frequent attacks of pain, insomnia, requires much opium Physical examination, enlarged uterus, short cervix, long, narrow and rigid vagina, clean os sound passes four and one-half inches, lungs, heart and kidneys normal Urine low sp gr, 1015, no albumin Preliminary treatment removal of nearly a quart of soft, friable, sarcomatous tissue by curetting in two sittings, the second necessitated as the great loss of blood and feeble condition of the patient during the first attempt would not admit of it being finished Tonics and stimulants Curettings February 12 and March 17

Operation of hysterectomy April 10, 1894 The patient made a good recovery, enjoyed fair health during the summer and moved out of town, thus passing out of my hands I learned that she died with symptoms of renal disease during the early winter

Case 2—Multinodular fibroid uterus Vagino abdominal hysterectomy Family physician Dr F C Osman, of Dorchester, Mass Mrs S, married, 1-para, no miscarriages, first seen, April, 1894 Age 42, housewife Family history negative Previous history a slowly developing tumor of the right broad ligament, cystic, causing such disturbance that its removal was advised and performed by Dr Wm T Lusk, six years previous, and at the same time both ovaries were also removed Small multiple fibroids had been recognized before, and the diagnosis was verified at the time of operation The health improved, but there was constant pain, discomfort and disability up to the present time, with swelling of left leg of recent origin She had received various anodyne, stimulating, tonic, and local treatment, without much benefit Perineorrhaphy seven years ago At the time of operation she was pale, emaciated, feeble, but of a cheerful and hopeful mind Good steady pulse, and no evidence of renal disease Menstruation (metrorrhagia) regular to time of hysterectomy Physical examination showed an enlarged uterus, nodular, and lying back against the promontory, and somewhat low in the pelvis The os was clean, the canal four inches deep, and there was nothing peculiar about the vagina

Operation for hysterectomy was performed May 1, 1894 The details of the operation were carried out carefully in every particular, according to my previous description There was no appreciable shock and the patient made a complete recovery and has since been perfectly free from pelvic pain and discomfort, although she still suffers from some cystitis Urine 1031, no albumin or sugar

Case 3—Fibro-cystic disease of both ovaries Enlarged uterus Vagino abdominal hysterectomy, recovery Family physician, Dr Rich Hogner, Boston, Mass Mrs N O, married, nullipara, no miscarriages, first seen August, 1894 Age 29 years, housewife Family history shows a sister, 2 para about 40 years old who died in June, 1893, from sarcoma cystica-ovariorum Previous history for several years she has suffered from excessive and long continued menses, occurring about every two weeks Last May after heavy lifting she had an attack of pelvic peritonitis, with metrorrhagia, so extensive as to threaten the patient's life, complicated with slight nephritis and acute endocarditis as well as embolic pneumonia For a year and a half, menstruation has been regular, except for two periods Previous treatment consisted of gynecologic kinesitherapy, according to the method of Thure Brandt and Swedish medical gymnastics Her condition at the time of operation was excellent as far as the general health was concerned Examination showed a tumor reaching nearly to the umbilicus and closely connected with the uterus The fundus could not be determined The urine was normal The cervix was normal, uterine canal four and one-half inches, and vagina roomy

Operation Sept 11, 1894, was unusually long, owing to numerous adhesions Very little shock followed, the urine of the first ten hours was smoky and albuminous Recovery was perfect, and the patient has remained well since

Case 4—General interstitial fibroid uterus, submucus fibroid ovarian fibro-cystic tumor on the right side Vagino abdominal hysterectomy, recovery Family physician Dr Mary E Bates, Boston, Mass Miss E A, single, nullipara, no miscarriages first seen April, 1894 Age, 43 years School teacher Family history; mother has suffered for years with an abdominal growth One sister and brother well Previous history dysmenorrhea from childhood, steadily growing more severe, and especially during the past ten years Ten years ago it was claimed she had a misplacement of the uterus and a ring pessary was worn for several months with relief of symptoms For several years she has had flatulent dyspepsia with headache occasionally Five years ago she was curetted by Dr Marcy For several years menstruation has occurred nearly every two weeks and very profuse A watery discharge has been noticed most of the time and required the constant wearing of a napkin for two years She is extremely feeble and exhausted on slight exertion, although well nourished There is pallor and discoloration of the skin Heart, lungs and kidneys normal Uterus considerably enlarged, cavity four and one half inches deep, tender, os clean Vagina somewhat close, right ovary painful to pressure, urine normal

Preliminary treatment by curetting in May, 1894, rest in bed, tonics and sent to seashore for the summer Came back with increased tone and weight, but incapable of work Operation Oct 25, 1894 Primary union of parts but some bladder catarrh followed with occipito cervical neuralgia Steady improvement from the beginning and she resumed her occupation as teacher April 1, 1895

Case 5—Large uterine myomata Vagina-abdominal hysterectomy Recovery Family physician, Dr John E Somers, Cambridge, Mass Miss M R, nullipara, no miscarriages, single First seen December, 1894 Age 32 years, domestic Family history both parents living, of thirteen children one sister died from uterine tumor, and two others in confinement Previous history of excellent health until the summer of 1893, when a large bunch, at first pulsating, but not later, was discovered in the lower abdomen It was not tender to touch, and did not increase in size for a year Menorrhagia was severe after the tumor appeared requiring two dozen napkins at a period It was painless There was some leucorrhea but not enough to require the wearing of a napkin Previous treatment with tonics At the time of operation she was pale and cachectic looking with a doughey condition of the face The heart was irregular and there was an indistinct systolic murmur The urine has a sp gr 1020, no albumin, but many squamous and pavement epithelial cells with some mucus She was well nourished and without evidence of emaciation The uterus reaches above the umbilicus is symmetrically enlarged with a cavity six inches deep, and a clean os The vagina is roomy

Operation Jan 17, 1895 While on the table patient was at times considerably cyanosed and the pulse could not be determined She reacted well however, and made a rapid convalescence with primary union After the operation the urine showed traces of albumin, and some hyalin casts The mind gave indications of impairment but there is improvement in this particular

Case 6—Large uterine myomata Vagino abdominal hysterectomy Recovery Family physician, Dr John E Somers, Cambridge, Mass Miss Lily B A, nullipara, no miscarriages, single First seen December, 1894 Age 37 years, school teacher Habit of taking long walks Family history negative Previous history well until the summer of 1891, when after a long and fatiguing walk on a very hot day menstruation occurred, a week before it was due After this event, frequent and profuse metrorrhagia followed and continued at irregular intervals to the date of operation In the fall of 1893 and spring of 1894, the attacks of hemorrhage were especially severe In January, 1894, phlebitis occurred in both legs and confined her to bed and room several weeks The tumor was first discovered in June, 1894, and in the fall of the same year a watery discharge from the uterus appeared, so profuse as to necessitate the use of a napkin constantly Previous treatment of tonics and electricity since July, 1894 relieved, to a certain extent the exhausting hemorrhage Her present condition in general is fairly good, pallor being the worst symptom There is some edema of the limbs, the urine is increased in quantity, with a sp gr 1020, the solids are in normal amount Heart, lungs and kidney are free from disease The uterus is symmetrically enlarged and reaches above the umbilicus, the cervix is short and "taken up" high in the pelvis The os is clean and the vagina long and narrow Sound passes nearly five inches

Operation March 7, 1895 A stem could not be inserted and after freeing the uterus from the vagina, the parts were packed with gauze and the operation finished from above in the usual way Twenty five minutes only was consumed in making the incision and removing the uterus, and the toilette of the peritoneum and closure of incision was finished in the same time The patient rallied quickly from the operation and made a good recovery This was the first case in which I had been obliged to leave the vagina open from above, and although the recovery was as complete as the others, a daily variation of 1 to 2 degrees of temperature and slight vaginal discharge showed the cavity at the vault of the vagina healed by second intention with granulation

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The Red Cross Society of Japan—The Japanese branch of the Red Cross Society was founded in 1877 At the beginning it had only 38 members At present it has 141,000 members and an income of $380,000, besides possessing a hospital On Sept 2, 1889, it was officially recognized by the International Committee

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HYSTERECTOMY FOR PUERPERAL INFECTION

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10, 1895

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The advances which have been made in the science of bacteriology and the discovery that the same germs are responsible for wound infection and puerperal sepsis, has given a new impetus to the consideration of certain surgical procedures looking to the cure of various forms of sepsis met with during the puerperium During the past few months the question of removal of the uterus, as a method of treatment for certain conditions arising during the course of puerperal infection, has been discussed by some of the prominent gynecologic societies of the country and much difference of opinion in regard to the advisability of this mode of procedure has been shown to exist

In spite of the diminished mortality from puerperal sepsis, brought about by the introduction of antiseptic and aseptic measures, probably many thousands of women die annually from puerperal septicemia The favorable results have been obtained in the large maternities, where perfect technique can be secured Outside of these hospitals, on the other hand, there exists still a large amount of septic infection, following abortion or labor at full term It is next to impossible to gather accurate statistics relative to the mortality from this disease, because of the inaccuracy of the death certificates The public have learned to blame the attending physician for any death resulting from septic infection subsequent to labor, from which naturally arises the discrepancy between the actual and reported diagnosis If to this be added the sepsis arising from accidental and induced abortions, it will be seen that no effort should be spared to perfect all methods of treatment for the relief of this condition The present paper is offered as a slight contribution to the study of the subject

A clear conception of the bacteriologic and pathologic changes in the birth canal is highly essential to the evolvement of correct principles of treatment Bumm describes two forms of endometritis, putrid and septic The germs which are active in producing septic endometritis are the streptococcus pyogenes aureus, the staphylococcus pyogenes aureus and the streptococcus erysipelatus The septic process may be localized and the germs shut off from the underlying tissues by a granulating zone, or this zone may be absent and the pyogenic cocci be found distributed in the lymphatics leading to the peritoneum In septic endometritis although putrefactive germs may be present, they do not predominate, hence fetid lochial discharges are apt to be absent in the more septic processes, a fact of much significance as a point of diagnosis

In putrid endometritis there is always to be found decomposed material within the uterine cavity and a necrosis of the epithelial layer The granulation zone is also present in this variety, and acts as a barrier to the penetration of the germs and their products into the lymph spaces of the uterus The putrefactive focus within the uterine cavity favors the development of certain toxins, the absorption of which into the blood gives rise to a form of systemic poisoning termed sapremia, the symptoms of which differ in many respects from those accompanying septicemia.

Generally speaking, cases of puerperal sepsis may be divided into two large classes, 1, those where by means of the lymphatics, a large number of germs have found their way into the general circulation without giving rise to localized inflammation in the broad ligaments, adnexa or peritoneum, and 2, where the septic process has resulted in areas of localized inflammation in and about the birth canal, the general circulation containing, as the case may be, many or few of the pyogenic cocci.

Considering the second class first, we meet with a variety of local manifestations. The septic inflammation may spread from the interior of the uterus to the peritoneum and a localized peritonitis result. The germs may travel by way of the uterine lymphatics or Fallopian tubes. These are the cases which offer the best results from operative interference, because the products of inflammation are walled in and shut off from the general peritoneal cavity by adhesions. This variety of inflammation results in localized collections of pus, which often assume such large proportions as to be mistaken for, and reported as, cases of general septic peritonitis cured by celiotomy and drainage.

The broad ligaments may be involved by an absorption of the septic germs by way of the pelvic lymphatics. Here we meet with true pelvic cellulitis and abscess, the evacuation of which often results in a subsidence of the puerperal symptoms and a cure. Again we may have a general purulent peritonitis resulting from absorption by way of the lymphatics. This usually proves rapidly fatal and where fully developed is probably not amenable to treatment, the system being overwhelmed by the poison absorbed from the large amount of surface involved in the septic process.

In speaking of the pathologic conditions found in septic endometritis, it was stated that in a certain class of cases the granulating zone, shutting off the necrotic endometrium and offering a barrier to the invasion of the germs into the underlying tissues might be absent. Then the pathogenic cocci are absorbed directly by the lymphatics and veins and find their way directly into the general circulation setting up a virulent septicemia. These are the cases belonging to the first division mentioned above. Localized inflammatory processes in the cellular tissue, adnexa and peritoneum are absent or only appear secondarily just before the fatal issue brought about by the general systemic poisoning. Even in those cases of septic endometritis where a granulating zone is primarily present, active absorption may take place if, through the injudicious use of the sharp curette, this protective zone is removed. To recapitulate, we may divide puerperal sepsis into two large divisions:

1. Where general infection predominates, and localized inflammatory processes appear only secondarily and are of minor importance compared with the general septic condition.

2. When the septic absorption results in the formation of localized inflammation either in the adnexa, pelvic cellular tissue or peritoneum. General infection, however, may accompany or result from these inflammatory collections.

There should be no difference of opinion in regard to the proper treatment to be instituted for the relief of the cases coming under the second division, except where absorption has resulted in general purulent peritonitis. All collections of pus in the adnexa or cellular tissue should be evacuated with the least possible delay, and the tubes and ovaries removed if necessary. It will usually be found best to reach the pelvic abscess by way of the vagina, but so much more can be learned in regard to the condition of the peritoneum and uterus by the abdominal incision, that it would seem preferable to remove the appendages by this route, when the general condition of the patient presents no contra indications.

Surgery has scored some brilliant successes in the treatment of localized puerperal septic inflammatory deposits, as a review of the reported cases will reveal. What confronts the surgeon to-day is the treatment of the other class of cases, where absorption is taking place from the interior of the uterus by way of the lymphatics, and the resulting infection is becoming general and not local. Medical treatment for these cases is practically valueless. Can surgery prove of any avail?

The cases of general infection now under consideration are of two descriptions, as might be supposed from a study of the two varieties of septic endometritis, which have been pathologically considered.

1. We have those cases where the veins and lymphatics at the placental site are loaded with germs, and 2, where the zone is present and impedes to some extent the further penetration of the cocci. Clinically, it is extremely difficult, if not impossible, to differentiate between these two conditions, which a histologic study of the endometrium has revealed to us. The symptoms of both are pronounced and denote a general septic absorption. The lesson to be learned is that a dull and not sharp curette should be used in intra uterine treatment, if we would preserve nature's barrier which has been thrown out in the form of a granulating zone. The treatment of these septic cases must be rigorous and thorough, if it is to prove of any avail. The source of infection must be got rid of at once or else the blood will become so loaded with the poisonous germs that any treatment will be valueless. Could we differentiate between the two conditions clinically, it would be advisable to curette and pack the uterus with gauze in the second class of cases and exchange this method for more radical procedures for those of the first class. But inasmuch as a differentiation is almost impossible, the plan of treatment just suggested should be employed in all cases.

A careful examination has already revealed the fact that the beginning septic infection is not complicated or has not given rise to localized inflammatory deposits. The main diagnostic symptoms to be relied upon are the high fever, rapid pulse, possibly chills and the history of the case. A careful curettage will remove everything from the uterine cavity which can give rise to septic absorption. If the curettage and packing with gauze causes no amelioration of the symptoms within twelve or eighteen hours, the only logical procedure that remains to us is to remove the source of infection, namely, the uterus. If this be done early enough the patient may live. In other words, provided the organ whose lymphatics have been shown to be loaded with germs can be removed before too many have found an entrance into the general circulation there would seem to be no reason why a cure should not be effected It may be urged that such a procedure is too radical and that it is useless, because the disease is general not local, hence the removal of the uterus can have no effect *It is a radical* procedure but *not more radical* than the disease is fatal, if allowed to proceed unchecked The outcome must be fatal, unless the source of infection be removed If the absorption has progressed *to a certain* point, hysterectomy is a useless operation, because we are then dealing with a general and not a local disease The plea that is made here is for the radical operation while the disease is still local *The* writer is convinced that by early *operation a certain* number of cases may be saved It is not right to condemn hysterectomy in these cases because it has failed when undertaken too late Successful cases have been reported *and* will become more common as we become more skilled in diagnosis and more expeditious in treatment The writer has arrived at these conclusions from a careful study of the following case, which is reported in full because of its bearing on the subject under discussion

Sunday afternoon, Feb 3, 1895, the writer was asked by Dr A J Pressey to see in consultation Mrs W The attending physician gave the following history of the case the patient was 28 years old and married She had had two children The doctor had attended her for a number of miscarriages January 28 he was called to see her and found her *with a* temperature of 105 She had been flowing according to her statement, for four days The next morning the temperature was 102 and the next 106 She then confessed that she had brought on a miscarriage, the method employed not being stated She was immediately placed under an anesthetic and the uterus thoroughly curetted with a sharp curette A putrid placenta, half the size of the hand was brought away, the uterus carefully douched with bichlorid solution and packed with gauze The next day the latter was removed and showed itself free from any odor The temperature ranged from 101 6 to 102 2 and the pulse was over 100 During the next three days there was but little change in the patient's condition except a gradual rise in the temperature, in spite of liberal doses of antipyretics A number of intra uterine bichlorid douches were administered, although there was absolutely no odor to the vaginal discharge

At the consultation, February 3, the temperature was found to be between 104 and 105, pulse 110 There was no abdominal tenderness and no signs of peritonitis Vaginal examination revealed a slight *thickening in* the right broad ligament, otherwise the examination was negative There was no odor to the vaginal discharge The patient's general *condition* was excellent and she expressed herself as feeling perfectly well and as not seeing the necessity of a consultation of physicians It was decided to curette again the following morning if the patient's condition was not improved This was thoroughly done at the appointed time, as the temperature was still high, and the uterus again packed with gauze The following noon, Tuesday February 5, as the temperature was over 104 degrees and the pulse high, it was decided, as the last chance, to open the abdomen, prepared to remove the seat of the infection, even if a hysterectomy should be necessary The entire peritoneum was *found* to be deeply congested Especially so was the surface of the intestines and broad ligaments and the peritoneum over the fundus of the uterus The appendages were found to be normal in *size and position* and the bunch felt in the right side *of the pelvis* was seen to be a true puerperal cellulitis The question that arose in the operator's mind was, Shall the uterus which is or has been the seat of infection be removed, or shall the incision be *closed and no further attempt* made to save the patient? A hysterectomy was decided upon, for reasons which will be stated later on, and the uterus and appendages removed entire *in a comparatively* short *time, if it be taken into consideration* that the surroundings were unfavorable, the operating room being little better than an attic

There was little or no shock after the operation, but *it proved* of no avail, for the septicemic symptoms became *more* and *more pronounced* and the death of the patient occurred *two* days later An autopsy showed that general purulent peritonitis had developed subsequent to the operation

This *detailed description* of the case has been necessary, in order that certain deductions might be drawn which may help us in future cases It would seem, in all probability, that the high temperature and other symptoms which were present just prior to *the first curetting* were indicative of the presence of a powerful poison within the blood In other words, we had to deal here with *a sapremia* and not a septicemia, the toxins being produced because of the presence of the putrid retained placenta It is also probable that the sharp curette, while it *removed* the foul placenta, may have opened the uterine sinuses and veins and allowed the entrance of the pathogenic cocci themselves At any rate, the curetting and packing with gauze did no good, if no positive harm were done In the opinion of the writer, the second curetting was a mistake The history of the case should have been taken into consideration and the celiotomy performed then and there If it had been done at that time or better, just after the first curetting had failed to accomplish any good, there is every reason to believe that the removal of the uterus would have saved the patient's life The moment should have been seized when the germs were within the uterus and but few had penetrated into the general circulation Could such *a time* be chosen and the uterus, which is the source of the infection, be removed, there seems no good reason why the septicemic process might not be aborted The mistake that is made is delaying until the system is so overcharged with the poison that the removal of the source of the infection can *not* avert the fatal termination

SUMMARY

1 Puerperal sepsis is still a common disease, although in the hospitals the mortality *from this* source is practically *nil*

2 There are two forms of puerperal endometritis (*a*), putrid, (*b*), septic

3 In the septic form there may or may not be present a granulating zone, acting as a barrier to the further penetration of the germs

4 Putrefactive germs may be absent, hence fetid lochia may not be present

5 Putrid endometritis signifies necrosis of the lining membrane of the uterus and the presence of decomposed material

6 This variety is prone to develop toxins, the absorption of which gives rise to sapremia

7 Clinically, cases of puerperal sepsis may be separated into two large divisions 1 where general infection predominates, 2, where localized inflammatory deposits are present, the general infection being secondary and less important

8 The areas of septic inflammation may be in the adnexa, pelvic cellular tissue or peritoneum

9 This class of cases present the most favorable field for operative procedures

10 It is almost impossible to make a differential diagnosis between those cases of septic infection having a granulating zone in the uterine tissue and where this is absent

11 These cases should be curetted with a dull instrument and packed with gauze

12 If there is no improvement in the symptoms within twelve or eighteen hours the source of the infection, namely the uterus, should be removed

13 Hysterectomy should not be condemned because of its failure when performed too late

14 If this operation be done early enough it will be the means of saving a number of lives

DISCUSSION

Dr A Lapthorn Smith, of Montreal—said that when we have to deal with a case of puerperal fever which, in spite of careful curetting and irrigation continues to grow worse, an operation should be resorted to He was among the first to open the abdomen for this condition In such a case the infective process has invaded the walls of the uterus itself and the lymphatics that run along its side, and the only rational thing to do is to open the abdomen and remove the uterus He is strongly in favor of the abdominal method in preference to the vaginal, as it gives us a better opportunity to completely eliminate the source of infection

Dr Henry P Newman, of Chicago—commended the two papers as they were in the line of better work in this very distressing ailment, puerperal septicemia, following birth at full term, and following abortion He expressed the opinion that by merely curetting the uterine cavity we accomplish very little Curettage as it frequently done, was in his opinion extremely faulty in puerperal cases We can do comparatively little in covering the entire endometrium with an ordinary curette It is his practice to supplement the curetting by swabbing out the uterus with a 95 per cent solution of carbolic acid, subsequently packing the uterus with iodoform gauze

Dr L H Dunning, of Indianapolis—desired to place on record his cases of pus in the pelvis, antedating delivery and leading to the development of peritonitis The first case was one of pyosalpinx, resulting in death three days after delivery, immediately subsequent to operation Preceding and following the operation there was a discharge of pus from the uterus, due without doubt to suppuration in the uterine walls The second case was one of tubo-ovarian abscess, following a miscarriage at four and a half months After the miscarriage, evidences of septic peritonitis occurred An operation was advised, but declined, and post-mortem examination showed that the abscess had ruptured

Dr J Henry Carstens of Detroit—said that in certain cases, where the puerperal symptoms are due to the presence of small pieces of placenta or membranes in the uterus, curetting and swabbing with strong carbolic acid are all that is necessary He is not in favor of packing the cavity with gauze after curetting believing that freer drainage will take place without it There are other cases of puerperal septicemia, coming on late, that is, about the ninth or tenth day after delivery, which are the result of some peculiar kind of infection and often end fatally

Dr W H Humiston, of Cleveland, Ohio—referred to two cases of puerperal septicemia that had come under his observation during the past year, in both of which he advised hysterectomy, and in both cases the operation was refused One of the patients died after a prolonged illness, while the other recovered

Dr John Milton Duff, of Pittsburg—believes that if the pulse still keeps rapid, and only a slight decrease in temperature follows curettage and irrigation of the uterine cavity, the patient, if let alone, will die Under such circumstances hysterectomy is necessary

Dr L S McMurtry, of Louisville—said he thought it would be a great misfortune to have the statement go out from this meeting that in every case of puerperal fever which does not yield to ordinary treatment a hysterectomy is demanded Puerperal fever is very common, and the majority of the cases recover under an expectant plan of treatment In his opinion, hysterectomy should only be resorted to on the same principles that it is done in other conditions When there are some demonstrable lesions in the pelvis, then it is proper to resort to an operation

Dr M Price of Philadelphia—said he never employs the curette the use of which he regards as very injurious in any form of puerperal fever Tamponing the uterus with gauze should also be avoided As regards the performance of hysterectomy in puerperal septicemia, it should be considered nothing less than a criminal procedure The woman is already septic and to create an additional raw surface can only add to the danger If this operation is done in such a case and recovery follows, it is the result of a happy accident and not the surgeon's skill

Dr J M Baldy, of Philadelphia—said there was not an authentic case on record in the literature of medicine, of general suppurative puerperal peritonitis that had been cured by operation , no surgeon had ever gone on record as strongly as the Prices, of Philadelphia, that surgery should be done where there is pus, and when one of these gentlemen makes the statement that he has had two patients in bed for two months with pus and tells us not to operate in such cases there is something wrong They say, operate when you put your fingers on disease , in other words, remove the tubes and ovaries, but if there is disease or pus in the uterus ignore it He would ask, Of what service is it to remove the tubes and ovaries only, when the pus is in the uterus? If the patient be left alone, she will probably come again into the hands of the operator for a secondary operation It would be much wiser to perform the primary operation, and save the patient months of a dangerous condition

Dr W E B Davis, of Birmingham, Ala —believes that surgeons sometimes make a mistake in peritonitis, in that they do not consider the germs which produce the disease While the germ of gonorrhea was the most prolific cause, there were other germs than the gonococcus which sometimes entered into the production of the disease He agrees with the essayist that cases of general suppurative peritonitis are not cured by surgery He fails to see how cases of peritonitis, which have gone through the different stages with pus formation, can get well by surgical interference By this time the system is thoroughly infected and it is impossible for surgery to relieve the condition , in other words the patient is septic, and even if the peritonitis was cured by operation the patient would die He was aware that some surgeons had made the statement that they had removed pints and even quarts of pus from the peritoneal cavity and cured the patients, but he did not believe it

Dr J C DaCosta, of Philadelphia—had never done hysterectomy for puerperal septicemia, and almost every case he had known to be operated upon had died If we take a woman with puerperal sepsis, with a temperature of 104 5 degrees, thoroughly curette the uterine cavity, remove the *débris*, etc , and wash it out , we will find the temperature will come down to 102 degrees , and a second curettage, followed by thorough packing with iodoform gauze so as to distend the uterus and drain it, will cure some of the cases if they are not too far advanced

Dr Charles P Noble, of Philadelphia—said Dr Carstens had made the statement that if the uterus is curetted early and swabbed over with carbolic acid the patient would recover The position he took in his paper was that hysterectomy should only be performed when these measures failed He went one step further and recommended that hysterectomy be done in cases in which the general condition of the patient was such that she was in imminent danger

Dr Reuben Peterson, of Grand Rapids, said the class of cases he had mentioned and dealt with in the paper were among the most embarrassing and perplexing cases with which the gynecologist had to deal, largely because our studies had not led us to definite conclusions Yet, it seemed to him, that the indications for surgical interference were clear It is unreasonable for us to wait until we get palpable disease in the pelvis before operating In the cases touched upon, nothing could be found of a definite character on either side of the uterus , the appendages were normal , and bacteriologic examination is apt to show that the lochia are not even involved. There is no tenderness , apparently no symptoms of peritonitis—indeed, nothing except we know that the woman is lying at the point of death He could not agree with Dr Carstens that by using the curette early in cases where there was pus collection and swabbing out the uterus with carbolic acid they would get well He believed that ninety-nine of every hundred would die

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DIAGNOSIS OF URETERAL AND RENAL DISEASES IN WOMEN

Read in the Section on Surgery and Anatomy, at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md, May 7-10, 1895

BY HOWARD A KELLY, M D
PROFESSOR OF GYNECOLOGY AND OBSTETRICS IN THE JOHNS HOPKINS UNIVERSITY BALTIMORE MD

It is my purpose in this paper to consider in outline the new methods of ureteral examination in women which I have developed recently I shall therefore pass over those important diagnostic points which are already well recognized, such as clinical history, urinalysis, and ureteral and renal palpation

My method lays stress upon three steps in the investigation, namely

1 Inspection
2 Catheterization of the ureter
3 Catheterization of the pelvis of the kidney

It will be observed that each of these procedures gives direct and positive information in marked contrast to the inferential methods of diagnosis of ureteral affections hitherto deemed sufficient

I —INSPECTION

Inspection is limited to the orifices of the ureters and notes 1, the appearance of the orifice and its immediate surroundings, 2, the character of the fluid discharged from the orifice, and 3, the character of the flow, whether absent, intermittent, or continuous

Inspection is accomplished by placing the patient in the knee-breast position, or elevating the pelvis, and introducing a cylindrical speculum, 10 millimeters in diameter The bladder at once fills with air, and all parts of its lining mucosa are accessible upon directing into it the rays of a good light held over the sacrum, by means of a head mirror The ureteral openings are found at the base of the bladder, about 2 cm from the internal ureteral orifice, and at an angle of twenty-five to thirty degrees to the right or left

1 The appearance of the orifice in inflammatory disease of the ureter and kidney is often characteristic, being deeply injected, or pouting, mammillated, or swollen and edematous A small area of ulceration may sometimes be seen in the bladder at the orifice In tubercular cases, when the disease descends from the kidney down to the bladder, the first infection is apt to be distributed about the ureteral orifice over a triangular area with its apex at the ureter The explanation is obvious, this is the area which comes first into contact with the urine from the infected side in its concentrated form, before dilution with the opposite urine and before distribution over the wide area of the bladder

2 The character of the fluid as it is seen issuing from the ureteral orifice may be sufficient in itself to settle the diagnosis and determine the treatment, but before reaching a decision it is necessary to examine both ureteral orifices, watching them for a few minutes, until there is an escape of fluid If no discharge takes place from one side, it may sometimes be started, when there is a renal tumor, by bimanual compression of the tumor in the flanks

I recall in this connection, cases of hematuria in which bloody urine was seen flowing out from one side while the other discharged clear urine In one case there was a layer of blood over the floor of the bladder, and the first and natural suggestion was that the vesical mucosa was the source of the hemorrhage But upon cleansing it with a little pledget of cotton, the mucosa was discovered to be normal Both ureteral orifices were surrounded with blood, but on one side the flow of normal urine kept clear a little path of uncovered mucosa, immediately in front of the opening, showing that that side was sound

In a case brought to me by Dr H B Marriott of Battleboro, North Carolina, we saw thick pure pus issuing from the right ureter, and limpid urine from the left I operated and removed a large number of stones from the right kidney I have repeated this experience many times

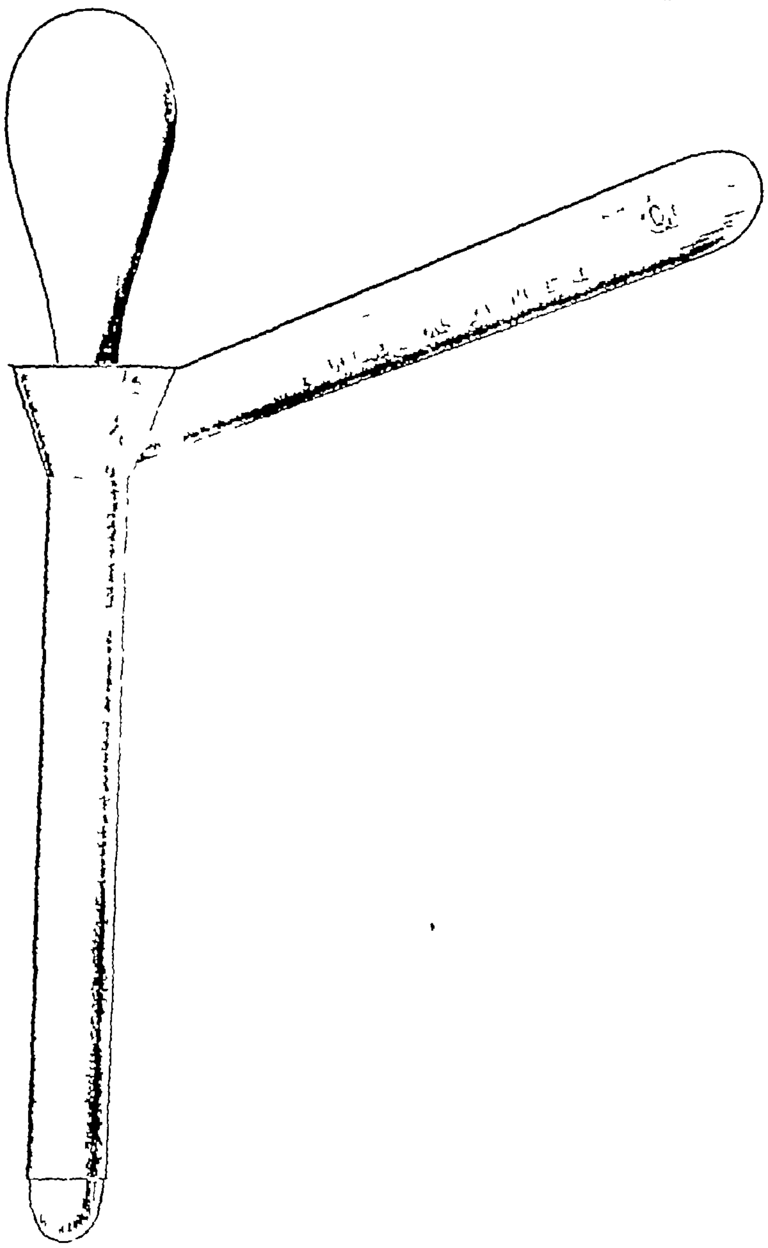

Fig 1 —Cystoscope

3 Normally, with the patient in the knee breast position, the urine flows in clear jets, spurting out and often down the speculum If there is a prolonged delay in the discharge from one side, there must be some stoppage there When the discharge is purulent, it simply oozes from the opening and may continue to run out for a considerable time without intermission

I would call attention to the important fact that, with the patient in the knee breast position, the fluid escaping from the ureters can be collected for microscopic and chemic examination,as it trickles down the speculum, without catheterizing either ureter

II —CATHETERIZATION OF THE URETERS

Catheterization of the ureter is but a step beyond inspection, and by my method the ureter can be catheterized almost as easily as it can be seen I must insist upon careful attention to aseptic details throughout this procedure These are in brief

1 A clean external urethral orifice
2 The introduction of an aseptic speculum
3 A ureteral orifice cleansed with a pledget of cotton saturated with a boric acid solution
4 A sterile ureteral catheter not contaminated by handling
5 Avoidance of contamination of the catheter during introduction
6 Placing the sterile end of the catheter in a sterile test tube to collect urine as it flows from the ureter without contamination

In order to catheterize the ureters the patient kneels upon a table or a bed with a board under the blanket to keep the surface flat Then with the speculum introduced into the bladder the right or left ureteral orifice is found and kept within the lumen of the speculum, while the metal catheter is taken up by its outer end and slowly passed in The end of the catheter is pushed on up to the ureteral orifice under constant observation, until it touches it, it is then engaged and gently pushed in toward the pelvic wall Any resistance felt must not be overcome by force, but by withdrawing the catheter slightly and pushing it in a little different direction It will generally be found, after the catheter has advanced 2 or 3 centimeters, that it is necessary to draw the speculum out a little, and then carry the point of the catheter more directly outward toward the pelvic wall

The speculum is then wholly withdrawn and the catheter left in as long as desired If the patient is turned over on her back, this must be done with extreme care, to avoid striking the end of the catheter and wounding the ureter

To secure uncontaminated urine for bacteriologic investigation, the outer end of the sterilized catheter should be protected by a sterilized piece of rubber tubing before introduction This can be taken off after the catheter is in place, and the urine which flows over the end can be collected without admixture with extraneous elements I sometimes sterilize the end which has been touched during the introduction, by holding an alcohol flame under it until the escaping drop of urine boils on it

Although the simple metal catheter is easier to handle in the introduction, I prefer, as less dangerous and therefore more to be recommended for general use, flexible silk ureteral catheters which I have had made, 30 cm long and 1½ to 2 mm in diameter (see Fig 5) These have a large eye below a conical point which is easily pushed up 15 or 20 cm beyond the ureteral orifice If kept in a cool place the catheter is stiff enough to push up the speculum and into the ureter without the aid of a stylet, with which a soft catheter may also be easily introduced

Short metal catheters 6 cm (2½ in) long, with fine rubber tubing on the end, introduced on a stylet, is also often convenient when both ureters are to be drained

To put a catheter into both ureters, one may be catheterized first and the speculum taken out entirely and reintroduced alongside the catheter, when the opposite ureter may be exposed and catheterized in the same way The patient may then be turned on her back without fear of the catheter coming out, and the urine drained from right and left ureters into separate receptacles It is important to note the time of the flow, so as to establish a relation between the kidneys which is quantitative as well as qualitative To collect uncontaminated urine from these and the renal catheters, to be described, a piece of sterile fine rubber tubing is slipped over the end to protect it from the handling during the introduction into the ureter Then when the patient is in the position in which she will remain during the flow, the rubber sleeve is drawn off and the end of the catheter placed in a sterile tube plugged with cotton I have found a simple wooden block with a hole bored in it, as shown in diagram, Fig 3, the easiest way to keep the tube in place A good way of making the connection between the tube and the catheter is by a piece of fine glass tubing, twisted to reduce the chances of atmospheric infection The rubber sleeve is then simply drawn over this instead of being pulled off

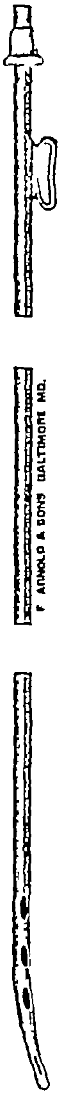

Fig 2

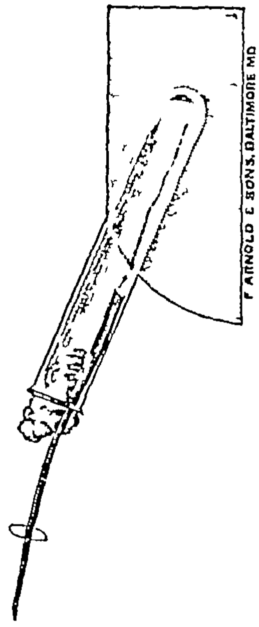

Fig 3

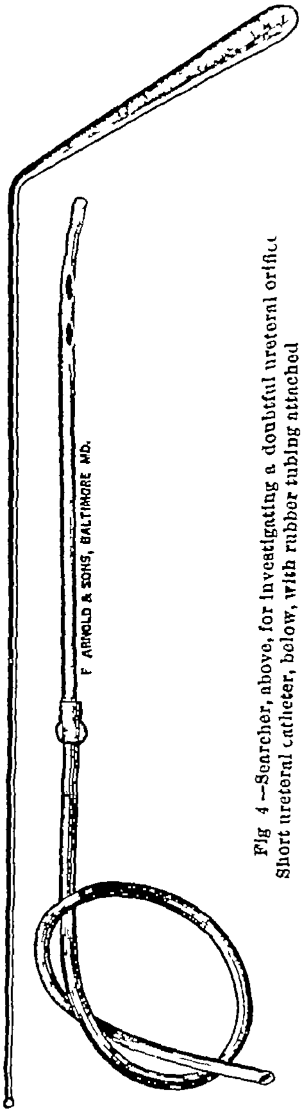

Fig 4 —Searcher, above, for investigating a doubtful ureteral orific Short ureteral catheter, below, with rubber tubing attached

I would ask those who follow me in this work to adopt my enumeration of catheters and spec [illegible] their diameters in millimeters, because this gives at once a better idea of the size used

Short metal catheters are also useful in draining both ureters. They are only 5 cm long, and are pushed in with a stylet up to the very end, so that the catheter lies wholly in the ureter and bladder The urine is carried out by a piece of fine rubber tubing on the end of the catheter

CATHETERIZATION OF THE PELVIS OF THE KIDNEY

My renal catheters are 50 cm (20 inches) long, and 1½ and 2 mm in diameter In special cases, I use still larger sizes They are introduced in the same way as the ureteral catheters, but are pushed up until the end impinges on the upper part of the pelvis of the kidney Their special field of usefulness is in demonstrating the condition of the pelvis of the kidney, whether infected or not, and whether there is or is not an obstruction at the upper end of the ureter

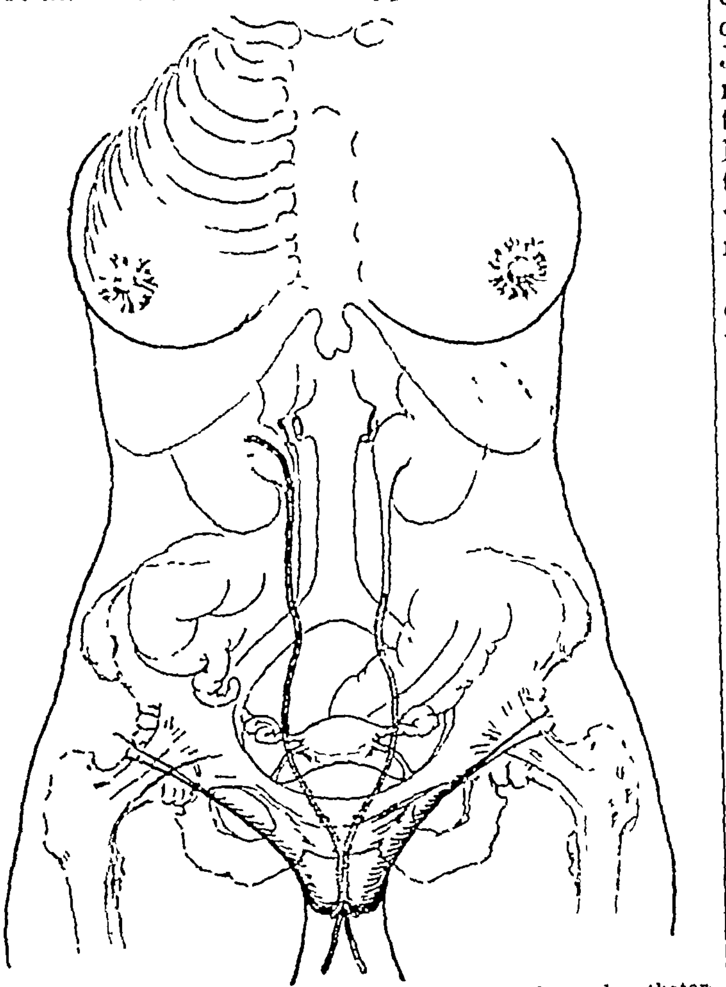

Fig 5—Diagram showing flexible ureteral and renal catheters introduced On the left side the ureteral catheter is introduced just beyond the pelvic brim on the right side the renal catheter is in the pelvis, touching the kidney The curves shown can be seen in the catheter on taking it out and laying it on a flat surface

By means of the renal catheters, I have completely evacuated a hydronephrosis I have also emptied a renal pelvis full of pus, and by forcing fluid back into the kidney have washed out the pelvis repeatedly, and cured a pyelitis

After using these soft catheters, they are washed out well with warm water, and then with a 1 to 1000 solution of mercuric bichlorid, and carefully dried and put away in glass tubes about 8 mm in diameter and enough longer than the catheter to plug the ends with cotton

During the introduction the glass tube is presented over the left shoulder for the right ureter, and the right shoulder for the left, with the end of the catheter projecting a little out of the tube This should be dipped in boro-glycerid to facilitate introduction In order not to infect it with the fingers during the introduction, I wear sterilized rubber cots on thumb and first finger, put on just as I am ready to grasp the end of the catheter and draw it out of the tube push it in, up into the ureter The glass tube is held still while the catheter is being withdrawn

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REPORTS ON TYPHOID FEVER

Read in the Section on Practice of Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore Md, May 7-10, 1895

(Concluded from page 241)

BY J E WOODBRIDGE, M D,

YOUNGSTOWN, OHIO

I quote this letter from Dr Balmer of Pennsylvania "I have treated a number of cases of typhoid fever this summer, by your method, with remarkable success and will endeavor to copy the temperature charts and send them to you soon I presented these cases and the method of treatment before our (the Jefferson County (Pa) Medical Society, at the last meeting and I had introduced it previously orally in the society and to individual members Dr S M. Free of DuBois, Pa, one of our members, is very enthusiastic, also Dr T J Brewer of Clarington, Pa, who treated a number of patients by the method, at my suggestion"

I very soon received a letter from Dr S M Free of DuBois, dated December 26 "I have used your plan of treatment in a few cases of typhoid fever It is the best I have ever employed I have tracings and fairly complete notes of my cases, and am having my assistant make copies which I shall take pleasure in sending you as soon as complete I trust that they may be of some service to you I am under great obligations to you for your kindness to me I am thinking of preparing a paper for presentation to our West Branch Medical Society on your plan of treatment, and will exhibit my charts and notes Do you object to such a procedure? I feel sure that the more we can induce to use the treatment, the less will be the mortality in typhoid fever"

A quotation from another letter from Dr H K Meyers of Indiana, dated Jan 6, 1895, is as follows: "I will say here that I have carefully tried your mode of treatment in three well-marked cases of typhoid fever in the past few months, and was well pleased with it

"Case No 1, girl aged 14, very poor, surroundings bad, parents as ignorant as they were poor, yet willing to do as I directed Temperature was from 104 to 105 5, bowels tympanitic, very tender, rose spots, tongue literally dried up, red edges During the first three days the nose bled almost constantly I tried to carry out your treatment to the letter, and I think I succeeded as near as any one can carry out another's ideas The temperature was normal on the eleventh day and she made an excellent recovery I should have stated that she had been sick a week before I was called The other two cases were treated in the same manner and made as good recoveries While my success in treating typhoid fever has been fair in the past, the fever was always protracted and tedious I think your treatment is correct in principle and bound to succeed"

Dr W N Sherman, of Merced, Cal, wrote me in August, 1894, asking for more definite rules for the management of typhoid fever than I had given in my papers These directions were sent on September

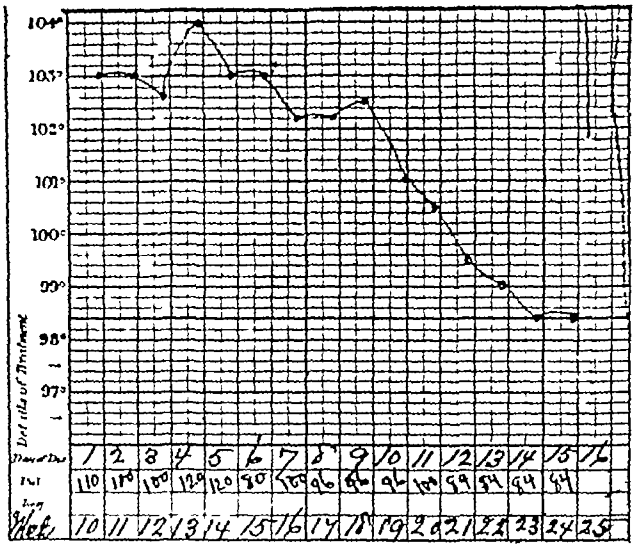
13, and on the 29th he wrote me a letter from which I extract the following "I have given your remedies in a modified form, in two cases, resulting in a normal temperature in both cases on the eighth day I am highly pleased thus far"

Other letters followed, reporting cases successfully treated, the last one on Feb 6, 1895, in which he says "I am greatly pleased to inform you that I succeeded in inducing my patient to take your remedy and this third relapse is yielding to the treatment *promptly* As the bowels were somewhat constipated I first gave 5 grains of calomel, followed by mineral waters and sul magnesia These failed to establish catharsis and I gave 1 oz of castor oil with turpentine I started with your combination No 1 and kept it up all the time and this morning, the sixth day, the temperature touched 98 8 degrees Has been able to eat all of the time and is cheerful and comfortable—a very material difference from the other attacks"

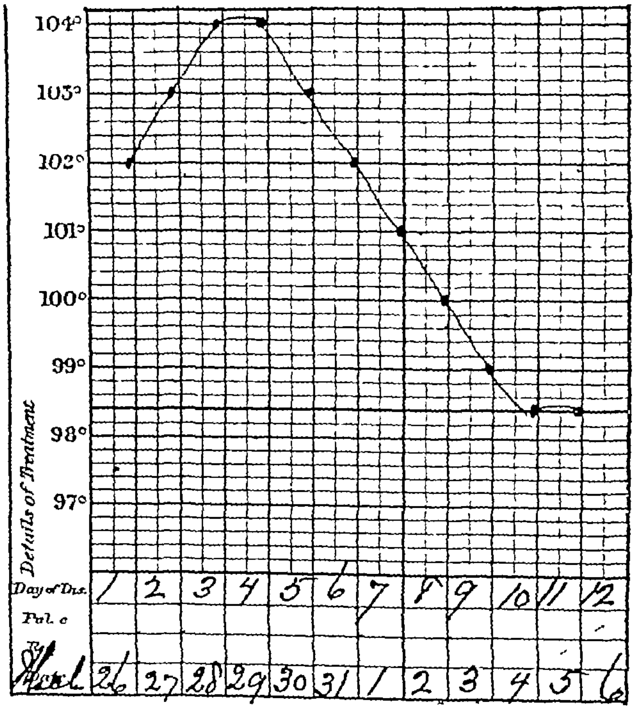
In another letter he says "You are at liberty at any time to use my name as one who has proved and practiced your treatment and believes it to be superior to all others"

Dr G Law of Colorado, published a paper in the Denver *Medical Times* of December, 1894, from which I take the following

"Dr John Eliot Woodbridge of Youngstown, Ohio, read a paper on typhoid fever, in the Section on Practice of Medicine at the forty-fifth annual meeting of the AMERICAN MEDICAL ASSOCIATION, in San Francisco, June 5–8, 1894 I was present and heard the paper" "on looking over the action of the drugs named by Dr Woodbridge, I came to the conclusion that the carb of guaiacol was the central and efficient agent, if there were any efficiency in the prescriptions Hence I framed a formula for myself. From July 25 up to to day, November 23, I have treated thirty-five cases of typhoid fever, without losing a single patient I have not had a case in which the fever lasted beyond twenty days, and have had a number of cases where complete subsidence of fever had ensued at the end of fifteen days Cases that started with a temperature of 104 F in the afternoon, after about four days of this treatment showed usually an afternoon temperature of 102 F and a morning temperature of 100 to 101 F, with some sweating, which usually occurred about midnight No one of the thirty-five cases ever had a dry tongue at any time, not one of my cases ever manifested the slightest delirium It was not necessary to give any of these patients anything for the purpose of securing sleep or rest Not a single relapse occurred in the entire number treated The guaiacol compound was continued for one week after the total subsidence of the fever, but given every three, and then four and, finally every six hours In none of the thirty five cases was there noticeable meteorism or the slightest hemorrhage from the bowels During the last twenty-four years I have seen and treated from twenty to fifty cases of typhoid fever each year I never before treated thirty-five consecutive cases without losing a patient, and never before treated that number of consecutive cases without a relapse Typhoid fever during the present year (1894) in our town has manifested about the usual characteristics with about the usual mortality, in the hands of practitioners other than myself I saw several fatal cases in consultation with other doctors, but I did not regard them as being suitable cases for the "Woodbridge method" as they were almost if not quite, *in articulo mortis* I am not sanguine of the value of this treatment if instituted late in the course of the disease after the nerve centers have become profoundly poisoned by the fever toxin I have made no secret of what I was doing with reference to my work, to my colleagues in the city However, only Dr R F Graham seemed to attach any importance to it He has been giving the matter some attention, and I thank him for his courtesy and will leave him free to speak for himself at his own elected time I am aware that the bright and brilliant lights of the profession have scouted the idea of there being any efficiency in

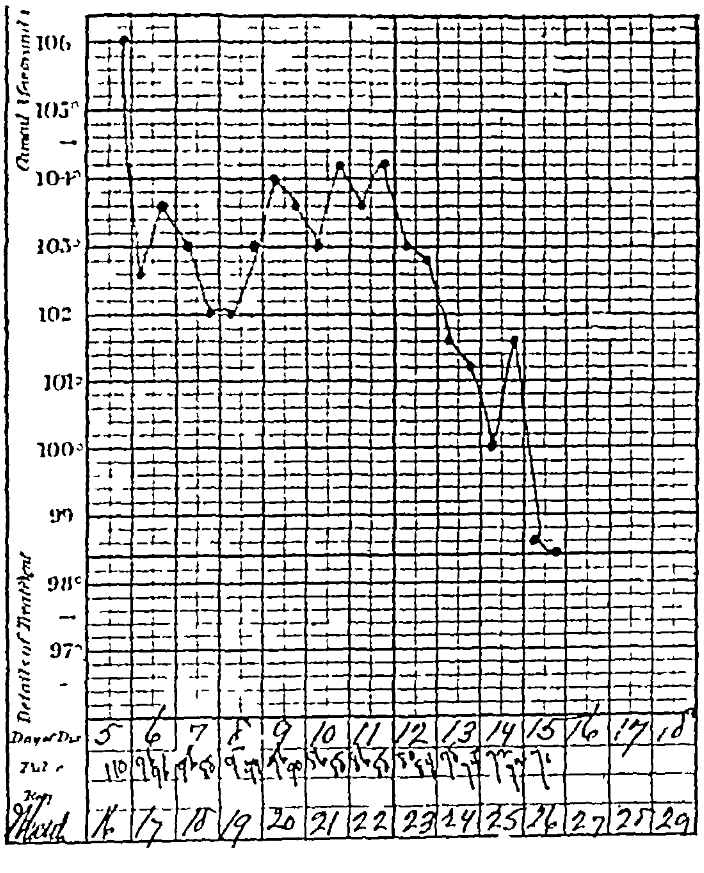


Dr McGarvey's Case No 7—Archie R age 6 years Date of admission, March 10 1895 This patient never took his bed



Dr McGarvey's Case No 8—John J age 80 years African occupation cook residence, Lorain Ohio Date of admission March 26 1895, This was a cook at the hotel a large corpulent negro but not one bad symptom Result recovery the plan of intestinal antisepsis, and I will admit that it has not hitherto happened to be markedly successful But let me ask is it not in line with the present trend of so called rational, not to say scientific medicine? In conclusion, I am inclined to infer, that either I have had a remarkable and continuous succession of mild cases, or the treatment on the lines of intestinal antisepsis that I have steadily pursued during the time indicated has been remarkably efficacious "

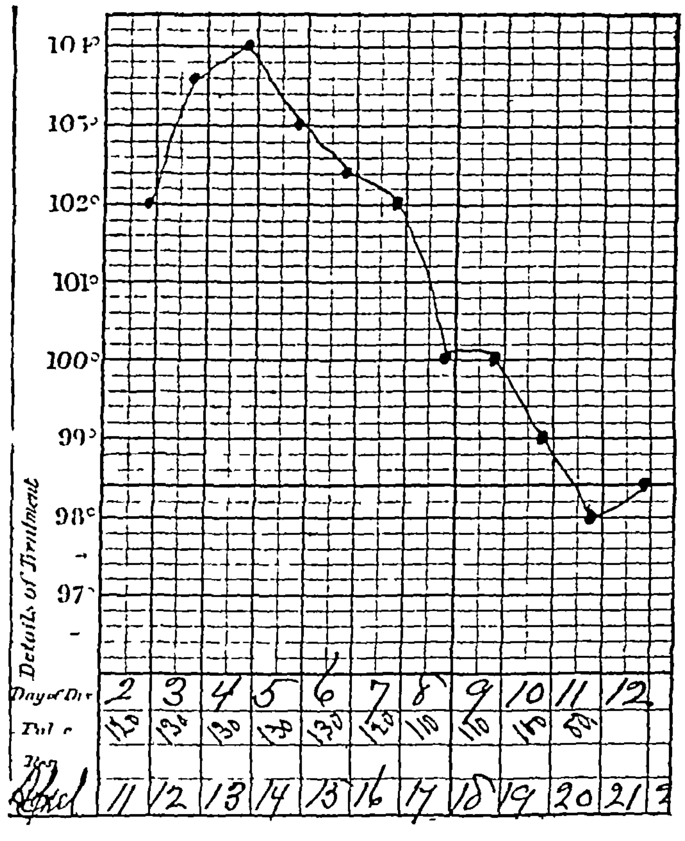
During the recent epidemic of typhoid fever at Lorain, Ohio, I was called there in consultation with Dr J F McGarvey who I found was treating the disease by my method, so scientifically and so successfully that I knew that time would give the "Woodbridge method" at least one more warm advocate on the shores of Lake Erie The evidence convinced him more promptly than I expected, and every few days he sends me a clinical chart of a patient in whose case he has aborted the disease Your attention is called to his charts, marked "Dr McGarvey, Case Nos —— "



Dr Yost's Case —William McC residence, Hazleton Date of admission, March 16, 1895 Commenced "Dr Woodbridge's Abortive Treatment" Sunday evening—the first day the patient thought the services of a physician necessary—he had been complaining for five days before On the tenth day he was covered with rose spots, and about the house

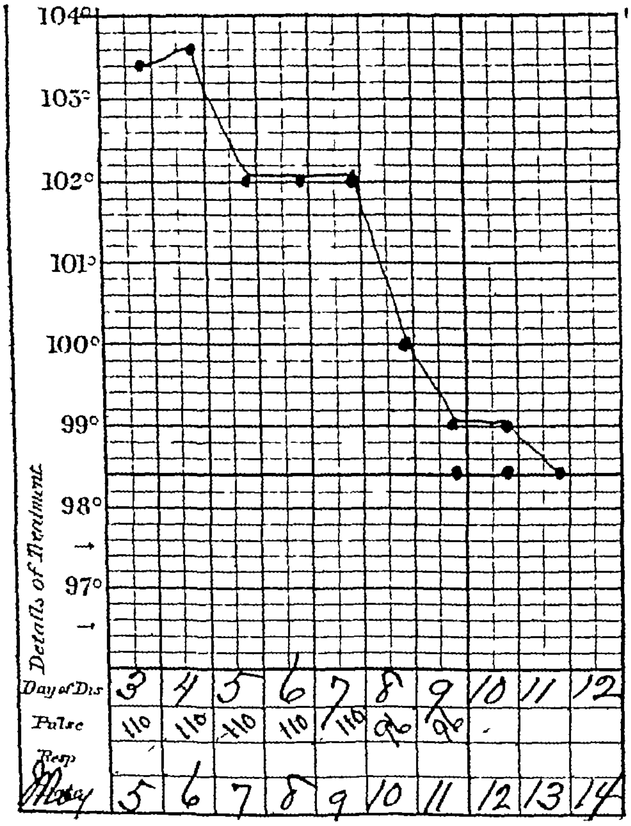
Dr J O Yost, of Hazleton, Ohio, in whose family Dr Bennet treated with me three cases of typhoid fever last autumn (See charts of Cases Nos 92 and 96, of the third case no chart was kept) has contributed a chart of a remarkable case, in which he reduced the temperature of 106 degrees, to normal in ten days, when he reports the patient around the house, covered with rose spots (See Case marked "Dr Yost No —, William McC)

Dr W B Shields of Arkansas, under the date of Oct 2, 1894, says "I have been for some time past, keenly interested in articles from your pen, which have appeared in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION in regard to the treatment of typhoid fever That you have struck the correct treatment I am farther convinced, not only by your own brilliant success, but by a very remarkable run in four cases which I treated in September, following your directions as nearly as possible No one with intelligence, it would seem to me, would question the treatment after having tried it, especially with such testimonials as you have presented from those who can not possibly be interested in your success I think as you say, that possibly your treatment could and may be improved upon in the future, but not materially changed, and it will have to be carried out on the same lines I was an interne in the Memphis City Hospital nearly two years and had good opportunities of treating typhoid fever with ammonia salycil, but although it seemingly modified the disease, I have no recollection of one case being cut short I have been in private practice for five years and can not say that I have seen any better results than in hospital practice, my cases all running from three to five weeks These four cases I am just through with, in two of them with morning temperature of 102 degrees, evening temperature 104 and 105 degrees several times in the first week, were free from fever at the end of the thirteenth day of treatment and fifteenth day of disease One other case with evening temperature of 103 5 and 104 degrees several times, was free of fever on the fifteenth day of treatment and seventeenth day of disease The last case had evening temperature of 104 and 105 several times, was free on the seventeenth day of treatment and twentieth day of disease This last case had such a bad attack as to suffer from incontinence of feces for several days All of these cases felt strong at the end of the fever, and could walk around With my limited experience in this treatment, I have to allow patients no solid food I have used no coal-tar derivatives whatever, but had my patients sponged off once or twice in the evening on days when the fever was high As you said, after



Dr Cunningham's Case, No 6 —Mary R , age 12 years Date of admission, April 11, 1895 two or three days of treatment their fever could be and was controlled by the antiseptics administered I feel that with further experience in this line I can have as good results as you have These few cases which I present, few in number, but brilliant in results, convince me that you have struck the keynote, and while begging your pardon for monopolizing your valuable time, I must return thanks for the great benefit I have seen result from your teachings "

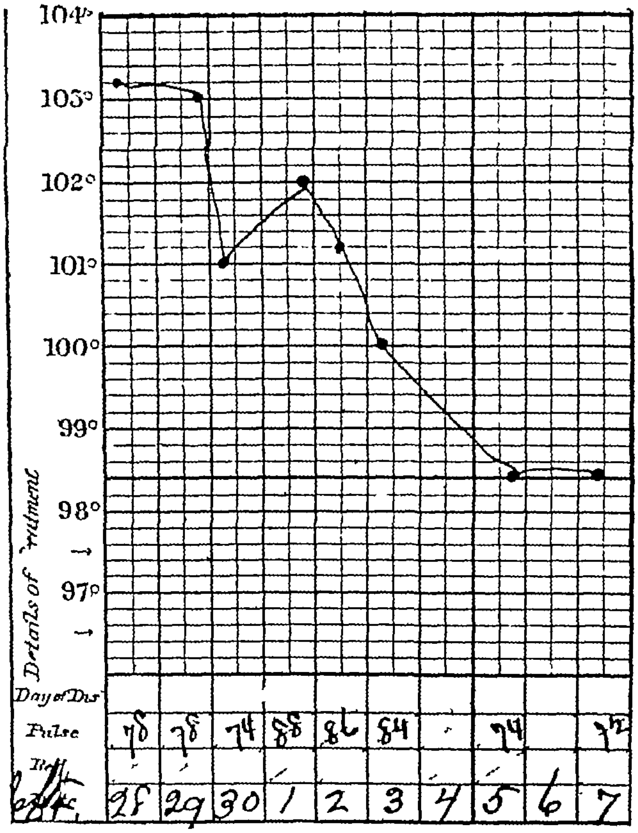
Dr C I Burt, of Iowa, wrote me on December 10 saying "We are having an unusual epidemic of typhoid fever in our locality I have at present some thirty eight cases Your antiseptic treatment was favorably called to my attention to day by Dr Wright, of Carroll, Iowa, and he requested that I write you for reprints of your late articles on typhoid fever Our source of contagion is such that the physicians of this town will yet have to contend with some hundred more cases " Very soon afterward I received another letter (unfortunately mislaid) in which the Doctor complained of his inability to secure the results I had promised, notwithstanding the fact that I had written him a long letter, giving him the fullest possible details of my method of procedure, but on Jan 22, 1895, I received another letter from him from which I make the following extracts



Dr Cunningham's Case No 7 —Zonie G , age 3 years Date of admission May 5, 1895

"I do not seem to get quite the promised results from the tablets, in the nature of producing effect, as stated in a previous letter, but I am now having better success and push them to their limit However, I have at all times followed very closely your directions, and must state that the effects have been wonderful In no instance have I failed in relieving my patient within three weeks and often in two In that time, understand, some of them were sitting up, others moving about, and in a manner attending to their usual business Many cases I began upon when the fever reached the 103 and 104 point, but they had no serious intestinal lesion However, when I discover the matter has passed to an intestinal infection, I yet obtain splendid results Now this point is one to which I wish to call your attention Leaving out the abortive effect of your treatment, what are your results after the case has progressed even to hemorrhage? I find, by pushing the treatment then, as persistently as at other times, that I obtain pleasant results, at least, a thorough intestinal disinfection and, in fact, a better general tone Without doubt, Doctor, any one who uses your treatment as effectually as prescribed by your directions, will have none but the most happy results for the outcome I have had several nurses from Omaha, and recently one from the Royal Infirmary, Dundee, Scotland who is in this country for her health, (they are all noted typhoid fever nurses) and let me tell you, they were absolutely paralyzed that a country doctor could produce such effects as they had never seen in Omaha or any western city They think they will go home now and treat typhoid fever on their own accord They say the only objection they have to this treatment is that it cuts off their time in nursing

In every instance I prescribe a full bottle, without erasing formula or other attached notices My nurses fully understand where the credit is due "



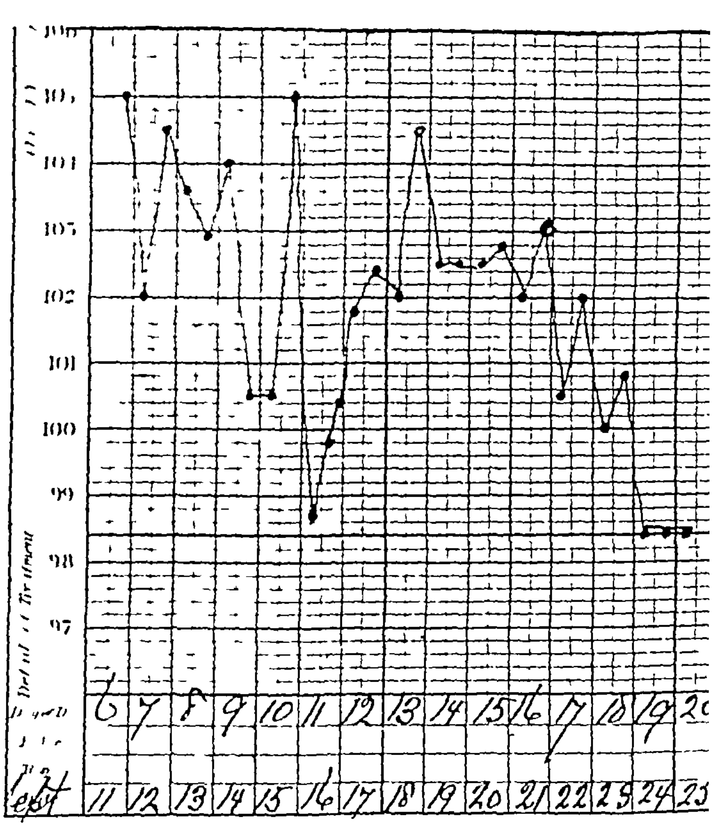
Dr J F Reed s Case, No 2 —John W , age 28 years, residence, Massillon Ohio Date of admission, Sept 28, 1895 Temperature remained normal after October 7 Temperature stood at 103.20 after taking 120 grs sulph quinin Treatment ' Woodbridge s ' Had most typical symptoms of any patient I have had nose bleed, tympanitis, etc

A letter from Dr Burt written on March 21, says "I am still using your treatment and now obtain all the results that you claim I have a patient, one case re-infected four times within eighteen weeks, under my care for the last five weeks and strictly under your treatment I have avoided any high jumps of fever from 101 to 106, as had previously been the case My patient is now convalescent, but if I stop the treatment two days I note a rise of temperature often from 103 to 101 I am not experimenting farther on this case but am rigidly keeping to the "Woodbridge treatment" and the happiest results follow I note that you are to defend yourself,

it does not seem to me that one ought to produce a defense in the line of argument, if any of the gentlemen will permit themselves to follow out your instructions and use your treatment, there would be no need of argument, they would all coincide with your views It is just as positive that typhoid fever can be aborted by your method as it is that it can not be by any other treatment, to my knowledge I have had some sixty cases this winter, and there has been no mistake in diagnosis, as our eminent local authorities *have assisted me from time to time* I note that some physicians criticize the fact that they can in no instance find the "typhoid fever curve" in your records, were they to do this, after using the treatment a few days the treatment then would be useless, the treatment is to prevent this curve It does so most satisfactorily Most of my cases have been among the poorer classes and scarcely any attention was given, other than the medicine I have lost one case, but that was not under the "Woodbridge method" *It may, no doubt, seem an exaggeration*, as to the number of cases *I have had* and the happy results, but every fact can be verified I have not kept a presentable account of cases in children, but my best and quickest results seem to be with them In ten or fifteen days they were not only convalescent but quite recovered I consider it would be an honor to render you any service in my power, and from the above statements if matters can be condensed or rearranged in any manner that would be useful to you, kindly command me, and I will respond to the best of my ability at once"

Dr Moore, of Iowa, in a letter dated *Dec 17, 1894*, says "I am very much pleased with your manner of going at the dread disease and I am much indebted to you for the treatment I have treated thirty cases of typhoid fever during the last three months, without a death Early in the autumn I had five patients in one family and all recovered in from eight to fifteen days The correctness of the diagnosis was questioned, they were thought not to be sick enough for the disease to be typhoid fever George V, living opposite, was taken sick, so I thought I would put him on the old "expectant method" of treatment, and as you will notice by looking at the chart of Case No 3, his temperature was not high and he seemed to be getting along fairly well, but about the thirteenth day he had a hemorrhage of the bowels and then I gave him your medicine, but it was *too late* I merely send you the chart and relate this instance to show how skeptical a community is, *and how laymen and physicians, too*, stick to an old custom I will never be caught so again"

At the last meeting of the Mississippi Valley Medical Association, I had read my paper on typhoid fever and during its discussion, which occupied three hours, my theories had been assailed in a most vindictive manner Learned professors, and the editors of medical journals had vied with each other in making ur
gentle speeches He who declared most positively i
his harangue the time-honored aphorism "Typhoi
fever must run its course of four, five, six, or te
weeks or longer," was most loudly and emphaticall
cheered Of all of the more than three hundre
members in attendance, not one voice was raised i
behalf of the principle I had so earnestly promu
gated, or to give the slightest countenance to th
treatment which will ultimately save an hundre
thousand lives annually in the United States alon
No man in all that assemblage dared or cared to sa
that "typhoid fever can be aborted," and to the en
of the discussion I remained the single and lone de
fender of this great and fundamental truth tha
means so much to the human race After the sessio
adjourned, I was introduced to Dr Dalton of S
Louis, with whom I had already had some correspon
dence and who had written me (after having teste
my method of applying antiseptic medicine to th
treatment of typhoid fever), that he had been si



Dr Moore's Case No 1—Ethel D age 6 years Date of admissio
Sept 11, 1895 This was a case with very severe symptoms of typhoi
fever Child was taken sick away from home She was treated by D
B by the old method for five or six days She has since had very muc
better health than before her illness Although the temperature was s
high, she was never "out of her head" When I first saw her rose spot
were abundant, and great tympanitis and tenderness in right iliac regio

years at the head of the great St Louis City Hosp
tal, through which 10,000 patients pass annually, an
he regretted that he did not then know of the "Wood
bridge method" And Dr Dalton healed all th
wounds which that three hours' debate had given me
when he said "I am very sorry that I was not a
hand when your paper was under discussion, I woul
have waited until those disputants had finished an
would then have said 'Gentlemen, I would like t
inquire how many of you have used Dr Woodbridge'
treatment of typhoid fever?' and when they admitte
that not one of them had (as they would have to do)
I would have said 'That is about as I expected, you
have been endeavoring to discuss a paper that you d
not understand, and a treatment that you have neve
tried I have investigated the matter and know tha

the treatment will abort typhoid fever '" Dr Dalton has in various letters to me indicated his entire satisfaction with my therapeutic procedures and has reported so many cases in which he has applied them, as to give assurance that the abortive treatment of typhoid fever in St Louis is in a master's hands Quotations from his last letter, written April 25, are as follows "When I first tried your treatment for typhoid fever I was a 'doubting Thomas,' but luckily the excellent result in the first case caused me to try it in a number of other cases, and I have not the slightest hesitation in saying that the treatment undoubtedly aborts the disease Two months since I purposely allowed a typical case to run the usual course for eight days, using the old treatment The temperature followed the general course, being a degree or two higher each evening On the eighth day, I put the young man (18 years of age) on prescription No 1, giving the powders every fifteen minutes for the first twenty four hours, and every half hour for the next twenty four hours On the third day they were administered every hour and the fourth day every two hours, after that every four or five hours for a week When I began the medicine, the temperature was 103 5 On the evening of the second day it fell to 101, and in two days more it was entirely gone, never to reappear The bowels moved freely, six or eight times daily for several days Ptyalism did not appear I used no other treatment after beginning the powders Put me down as a firm believer in the treatment, an enthusiast, in fact Let the doubters try the treatment and be convinced "

The original letters and reports from which these extracts are taken, and more than a thousand others on the same subject, as well as the original charts (of which you have been inspecting copies, many of them containing the verification and signature of the physician who attended the patient or who watched the results of the treatment) are over at my hotel, and I shall be pleased to have you inspect them They contain much valuable information and would well repay a careful examination I should like to have presented more of this unimpeachable testimony, but the line has to be drawn somewhere, and these documents, with those that I have already transcribed for presentation before the Ohio State Medical Society should be amply sufficient to accomplish their purpose, especially since through the courtesy of Dr Cunningham I have been able to present the anatomic specimens showing the ulcerated Peyer's glands, the tumefied mesenteric glands, and the intussusception which caused the death, and with them the clinical chart, kept at the bedside, in which the thermic line as it approached normal, indicates that the disease was aborted and the patient practically cured of his typhoid fever on the seventh day of treatment (See chart marked Dr Cunningham, No 3)[1] And if it be admitted that even one case of typhoid fever has been aborted, the total fabric of those who dissent from my views, reared as it is upon the antiquated and illogical hypothesis—that this "specific infectious," this "self-limited disease" can not be aborted—is demolished

The reports heretofore made by me should have left no doubt on this point, nor do I believe that they would have done so, could all or even two or three of the dozen papers which I have written on this all important subject during the last few years, have been listened to, and deliberated upon by one body of scientific men They have, however, been so much diluted by their great distribution (having been presented before so many widely separated societies, from the Atlantic to the Pacific) that very few physicians have heard more than one discussion of the subject, but when all these papers are gathered together and published under one cover, what Virchow calls "the brutal force of the figures" can not but convince any thinking and unprejudiced physician "that typhoid fever can be aborted " "*Bis ac ter quod pulcrum* "

Summarizing, you have my nineteen years of fairly satisfactory clinical experience with the method I have advised (the last thirteen years without a death in my own practice from typhoid, malarial or any continued fever), and as long practice added to my proficiency, a gradual reduction of the duration of the disease as well as a lessening of the intensity and violence of the symptoms

You have the 800 cases, with 9 deaths, reported by 117 other physicians, some of whom have treated large numbers, as many as 60 cases through severe epidemics, without a death, approximating my best results, and showing a grand total of 1,200 cases of typhoid fever, taken at all stages of the disease, with only 9 deaths, 7 or 8 of which were clearly due to grave complications, to the late stage of the disease at which treatment was begun or to faults of preparation or administration of the remedies

The foregoing is a brief summary of this, at present, voluminous and cumulative evidence, absolutely apodeictic as to the possibility of aborting typhoid fever, strongly presumptive as to the truth of the declaration that every case can be aborted and that death is a wholly unnecessary consequence of the disease, and more than competent to convict me of grave dereliction of duty, did I not impart my theories to the medical profession in unmistakable language

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[1] The report of this case after having been read in connection with this paper was presented and the anatomic specimens exhibited before the Ohio State Medical Society, in the Transactions of which it will be published This double report is fully justified by the rarity of the case—no other instance having ever come to my knowledge in which death has ensued after typhoid fever had been aborted—and because of its great value since it establishes the truth of my theories beyond question or cavil in the court of final resort

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RATIONAL TREATMENT OF PERTUSSIS

BY FRANCIS T B FEST, M D

PLANK ROAD MICH

With every disease its etiology shows us the way for its treatment Therefore it is necessary to recapitulate the etiology of every disease for which we wish to outline the therapeutics

Pertussis or whooping cough is a contagious disease, which manifests itself in spasmodic cough Although some bacteriologists have found in the sputum, bacilli, we are unable so far to determine their rôle, whether causing, accompanying or only accidental It is a local disease of the larynx, acting upon the nerve supply, and causing spasms of this organ The course of the disease shows three distinct phases the catarrhal, paroxysmal and declining

The first stage shows only symptoms of mild catarrh of the bronchi, nose or conjunctiva Pathognostic for pertussis is only the excessive watery secretion from the affected regions This phase lasts from two to seven weeks, with infants often a few days only

The paroxysmal stage affirms the diagnosis by its characteristic "whoops" The expectoration is watery, sometimes bloody In many cases vomiting follows the paroxysms by mechanical irritation The vomiting in return can cause disorders of the digestive apparatus The whoops at times occur as often as every half hour, and as thereby the cyanotic condition which accompanies the whoops occurs too frequently, they lead to asphyxial convulsion and even death

In the respiratory apparatus the irritation causes, in many instances, capillary bronchitis and catarrhal pneumonia After duration up to ten weeks the paroxysms are less severe, show themselves more rarely and the disease goes over into the declining stage At this time the sequelæ or secondary lesions mainly demand our attention

As we have seen, the disease is a local one It primarily affects only the larynx, all other symptoms are secondary This circumstance forms the basis of our treatment The disease is local—ergo, we treat it locally, it is of neurotic character—ergo, we give a drug that acts upon the nerves

With contagious local diseases, rational local treatment consists in destruction of the contagion by antiseptics—the most powerful is the most rational Therefore every local application of any antiseptic improves to a certain degree pertussis If we cast a glance at the literature, nearly everything was tried, phenol, boracic acid, thymol, resorcin, naphthalin, creasote, benzol, bromoform, mercurials, etc, but they all more or less are of irritating action upon the surface they are brought in contact with, or if not irritating, their action is so mild that their therapeutic effect is as mild too The experience of the last few years proved the superiority of peroxid of hydrogen over all other antiseptics, except when we have to handle metallic instruments An exception which interferes not in pertussis.

In pertussis, I use the peroxid with great success for local applications in this way the child's head is leaned backward and held firmly, another person pulls out and depresses the tongue to bring the glottis into good view, then by means of a bulb atomizer consisting of glass and rubber only, I direct a spray of peroxid of hydrogen solution toward the larynx and if possible through the glottis This is much facilitated if the child is old enough to pronounce the sound ā

I always prefer the 30 volume peroxid of hydrogen (hydrozone) and dilute it in the following manner hydrozone, one part, distilled water ten parts, glycerin one and one-half parts

If the parents are docile they can be instructed to repeat the application twice or thrice a day If the physician has a chance to apply it himself, he does well to make the solution fresh every time At all events it should be made fresh every other day on account of this mixture being unstable

Of all drugs only one has a really aborting influence upon pertussis, the old reliable, often abolished and always restored belladonna The only secret of its right administration is the circumstance that we have to give such doses to get the belladonna action, the flushes, (Jacobi), otherwise the administration is without value

A child of 2 years requires 6 drops of the tincture, three times a day, with the age the dose has to be increased to the proportion of 1 00 as a maximum single dose for an adult (gtt xxv)

The root, the extractum alcoholicum fluidum can be given to infants of six to eight months in doses of 0 01 t i d, children of 3 to 4 years require of the same 0 3 Atropin may take the place of belladonna, beginning in a child of two years with 0 00065 t i d and increase proportionately

All complications must be abated in time, else our patient will be emaciated If vomiting occurs at the paroxysms, give menthol If there be gastritis and catarrh of the bowels, give calomel, bismuth, or still better glycozone Often we meet gastralgia, then I prescribe for a child over 2 years

℞	Belladonna, tinct	2 00
	Mentholis	2 50
	Spir frumenti	10 00
	Glycerin	20 00

M D S Teaspoonful every two hours

Glycozone administered in the proportion of two teaspoonfuls, diluted in a wineglass full of water, gave me the most gratifying results in acute cases

Are the paroxysms severe, we can easily control the spasms by an application of cocain to the larynx

For the general treatment we shall advise fresh air, good nourishment, tonics and inhalations of ozone With such treatment the disease can be cut off to a period of only a few weeks

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A GLIMPSE OF IRISH SURGERY

BY N SENN, M D

CHICAGO

The wear and tear incident to a large hospital practice, the fatigue following the work during a long college session, and the unrest attending the demands of a progressive and exacting profession made it absolutely necessary for me, this year, to tear myself away from my sphere of activity and transplant myself to some foreign country to seek a much needed mental rest I selected for this purpose Ireland, Norway and Sweden It was my object to combine recreation with a study of the clinical advantages to be found in these countries After an unusually smooth passage of less than seven days, on one of the palatial Cunard ocean greyhounds, I landed at Queenstown Saturday, July 13 At this time of the year, Ireland is at its best, the deep green of the lawns and meadows imparting to the landscape a most pleasing aspect The stranger here has no difficulty in recognizing the nature of his environment when he sees and hears the ruddy, talkative cab driver, ever ready to give him the first ride on the Irish soil The open cart is the vehicle peculiar to this country It is used almost invariably to convey strangers and citizens to their place of destination quickly, if not in the most gentle manner

The city on my arrival was undergoing one of those convulsive political movements incident to a general election The political issues were discussed in a most animated manner on the streets, in all public places and in front of churches before and after service The women appeared to be, if anything, more enthusiastic than the men The newspapers were brimful of accounts of political meetings and speeches, and the American looked in vain for news from his native country The Irishman is a born orator and politician The humblest cabby admires and honors oratory and takes a lively interest in the issues of the day Eloquence sways the views and actions of the public masses more than argument The man who can make the best speeches has the first and last claim upon the favor of the people

From what I have seen and heard, I am satisfied that the great question which has agitated the Irish people for years—the land ownership, will be amicably settled by the ballot box and not by the sword What this country needs is not a separate government, but a more just and equable disposition of the land question The possession of a home, no matter how humble this may be, makes its inhabitants better citizens As soon as the Irish soil is owned by Irishmen, the burning question now before the people will be disposed of, to the mutual advantage of both countries

The first medical center in Ireland from the south is

CORK

This is a typical Irish city of about 100,000 inhabitants The dialect, customs and habits of the people have not been much affected by outside influences The most important hospital is the Northern Infirmary This institution is under the management of the Sisters of Charity It has recently been enlarged and many improvements have been made It is a charitable institution where all the poor sick and injured find the doors wide open during all hours of the day and night, regardless of creed The Sister Superioress will soon celebrate her golden jubilee She has served the order faithfully for nearly half a century Although advanced in years, she retains the vigor and ambition of her youth Her history would furnish ample material for an interesting story, replete with many acts of heroism and stirring events She served on the battle-fields of the Crimean War and smoothed the pillow of many a poor soldier who died of cholera in Algiers She is the beloved sister of the distinguished Bishop of Cork, the most Rev Dr O'Callaghan Brother and sister work incessantly in one common cause—the relief of suffering of the deserving sick poor

It is at the suggestion, and through the influence of the Bishop that a training school for nurses has recently been established in the Northern Infirmary Seven robust rosy-cheeked young women are now serving as probationers, who furnish the nucleus of a noble institution, the blessings of which will soon reach the rich and poor alike The surgical clinics in this hospital are conducted by Professors Sullivan and Hobart The hospital furnishes a rich material for the teaching of accidental and emergency surgery Fractures can be studied here to great advantage Antiseptic rather than aseptic surgery is practiced here

DUBLIN

This is the great center of Irish surgery The city with its numerous suburbs contains nearly half a million of inhabitants which furnish an abundance of clinical material for the two medical schools and the many hospitals

It is unfortunate that this old and otherwise enterprising city does not possess a general hospital where the clinical material could be centralized and made more available for clinical teaching Not any of the hospitals contain more than 120 beds and these, where the clinical teaching is done, are often distant from the medical school to which they are attached The teaching of clinical surgery of the Trinity Medical School, by Professor Bennett is done at Sir Patrick Dun's Hospital This hospital is a very old one and lacks many of the modern improvements which are so essential in the practice of ideal surgery Notwithstanding the many defects, excellent results are obtained Professor Bennett has made the study of fractures his life work A visit with him to the Pathological Museum of Trinity College is a rare treat Hundreds of the most interesting specimens of all kinds of fractures are shown and explained The museum is especially rich in specimens illustrating fractures of the neck of the femur and Colles' fracture The classical specimens which enabled Colles to describe a special fracture through the lower end of the radius which bears his name can be found here, and constitutes an object of increasing interest to the present occupant of the chair of surgery

Professor Bennett has made a most instructive collection of specimens, illustrating fractures of the first phalanx of the thumb It appears from this collection that fracture of this bone occurs as frequently as fracture of all the remaining phalanges of the hand

This museum contains also the skeleton of the famous Irish giant The Professor is of opinion that it represents a good illustration of acromegaly The equally famous "card player of Cork" enriched the collection by furnishing it with a skeleton illustrative of extensive and far advanced myositis ossificans The new bone is everywhere in connection with preexisting bone, no floating bone being found at the post-mortem, which demonstrates conclusively that this disease is not primarily an affection of the muscles but of the periosteum, the muscles serving chiefly the purpose of a temporary framework for the bone-producing process The disease begins in the bone-producing tissues corresponding with the origin or insertion of the muscles Many of the large muscles, notably those of the thighs and shoulders, in this case have been entirely replaced by bone, the muscles in advance of the osteo genetic substance having been removed by degeneration and absorption

Numerous specimens of so-called rheumatoid arthritis, which have been deposited in this museum, show the frequency with which this disease occurs in this country, and to what extent pathologic conditions are produced in its advanced stages The specimens show well the various stages of the affection, from a slight enlargement of the head of the femur and limited deposits of new bone upon the head, neck or trochanteric regions, to complete immobility of the joint by the formation of enormous, rough, irregular masses of bone connecting the pelvis with the trochanteric regions of the femur

The anatomic department of the museum contains a wonderful collection of dissections and frozen sections that are of such great value in the teaching of anatomy by demonstrations The professor of anatomy is an original and enthusiastic worker His whole time is spent in teaching and advancing both the science and art of anatomy It is much to be deplored that in our own country this part of teaching suffers greatly, by the teachers of anatomy being active practitioners who have to depend for their living largely upon their income outside of their college work

By far the most prominent surgeon in Ireland today, is Sir William Stokes, a son of the distinguished Irish physician, Dr Stokes He is professor of surgery in the College of Surgeons, and attending surgeon to the Meath Hospital where he operates, and delivers his clinical lectures He has inherited the inimitable qualities which characterized his father, and has done much toward the advancement of modern surgery in Ireland He is a fluent and forcible speaker and an excellent operator, is honored and respected by his patients and is a great favorite with his students He bears his title with modesty and dignity He will read a paper on "Fractures of the Neck of the Femur" at the forthcoming meeting of the British Medical Association He has collected numerous specimens which he has studied with great care and which he will use as a groundwork upon which to base a new classification of fractures of the neck of the femur The views which he will advance and elaborate will do much to illuminate a dark corner in surgery

Professor Bennett is making elaborate preparations to open the discussion upon this paper, and we may expect a flood of new light upon this subject from these two Irish surgeons During my visit to the Meath Hospital, Sir William made an amputation of the thigh through the middle third by Teale's method, for sarcoma of the leg He is painstaking in his work and it is evident that he has the interests of his patient more at heart than a desire to impress his audience with the brilliancy of his work A visit through his wards satisfied me that the Irish surgeons are wide awake in the development of surgical pathology, and in the adoption of new surgical resources The museum of the College of Surgeons contains a vast amount of material available for the study of surgical pathology It seems to me that this almost inexhaustible mine should be more frequently explored in the preparation of scientific papers which require illustrations of morbid anatomy to explain the text

The training schools for nurses in connection with all the hospitals in this city are in a flourishing condition The Rotunda Hospital is an object of great interest to every visiting physician If the old building could speak, it could tell of many sad events, it could narrate many disappointments in love and could tell of many reverses in life It is here that many young physicians have laid the foundation for their future success as family physicians, by receiving a thorough practical training in obstetrics Recently, ten children came into the world in this institution in one day, and the number of births during the last year, I was informed, numbered over 2,000 That prudent conservatism is practiced in this institution is evident from the fact that, on an average, only one Cæsarean section and one symphysiotomy are made during a year Antiseptic and aseptic precautions which are conscientiously carried out have succeeded in almost completely stamping out puerperal infection The lady Superior is a remarkably bright and intelligent woman, who takes interest in her work and who, at the same time, takes a great delight in the success of the Master of the institution Professor Smyley, the Master of the Rotunda, met with an accident a few days before I visited the hospital Like many physicians in this country he rides a wheel, and during one of his excursions he fell and fractured his arm For a speedy and satisfactory repair of this injury he has sought a quiet country resort from which, let us hope, he will return with new vigor to pursue his good work

Professor Myles is professor of operative surgery in the College of Surgeons and does excellent clinical work at the Richmond Hospital He is one of the rising young surgeons in this city Among the older Irish surgeons who have made Dublin famous as a medical center, must be mentioned Crampton, R W Smith, Abraham Colles, Robert Adams, Butcher and John Cusick, all of whom made valuable contributions to surgical literature, beside being influential and eminent teachers

BELFAST

In the north of Ireland is the stirring city of Belfast It is a Chicago on a small scale The enterprise of its business men has done much toward absorbing many of the commercial interests which naturally belong to the two other large Irish cities—Dublin and Cork The city bears an aspect of great activity and prosperity The medical school is a part of the University, and is built upon the same grounds It is a spacious and commodious building, but the laboratory facilities are as yet quite limited As is the case with all medical schools that have existed a hundred years or more, the most interesting and attractive part is the museum, which has been made the depository of many rare and unique specimens Professor Sinclair, the occupant of the chair of surgery in this school, showed me the collection and pointed out many specimens which are of interest to the writer The museum contains hundreds of specimens illustrating the different kinds of fractures and the process of repair He informed me that the Irish surgeons understand, by a Colles' fracture, a fracture through the radius near the wrist joint *without* impaction, as Colles described a fracture in this locality which could be readily reduced, with a tendency to re-displacement English and American surgeons describe under this term, impacted, as well as nonimpacted fractures, which is evidently a mistake according to the teachings of Colles, whose views on this subject have been retained by the Irish surgeons I examined a number of specimens of intra capsular fractures of the neck of the femur with bony union, in this collection, none of which have evidently ever been described in print

About a dozen female medical students aspire here for the degree of Doctor of Medicine, preparatory to placing themselves on a level at the bedside with the male members of the medical profession The "new woman" can be found here as elsewhere, in competition with the sterner sex in the various walks of life

Professor Sinclair is a young surgeon of considerable promise, who avails himself of all the recent advances and improvements in surgery His clinical work is done at the General Hospital, an old building with a capacity of about one hundred and forty beds The operating amphitheater is small and inadequately supplied with modern facilities

The Irish surgeon has to contend everywhere with the disadvantages incident to old buildings and poorly equipped operating rooms, and yet the results obtained compare favorably with those obtained in institutions supplied with all modern facilities, the best possible proof that they are doing good honest work

In the General Hospital accidental surgery predominates, which gives the students an excellent opportunity to become conversant with emergency work Dr Byers, the professor of gynecology, has fitted up a model little operating room for abdominal surgery, which is supplied with all the necessary conveniences to perform aseptic operations All of the patients recently subjected to abdominal operations for various indications were doing well

The classes in the Dublin and Belfast Medical Schools number on an average about two hundred and fifty

Fearing that the length of my communication will tax the patience of the readers of the JOURNAL, I will close with the statement that Irish surgery, as practiced at the present time, under the leadership of such men as I have mentioned, is a credit to the profession and the country it represents

Belfast, Ireland, July 18, 1895

SOCIETY PROCEEDINGS

American Electro-Therapeutic Association

Fourth Annual Meeting held in New York Academy of Medicine, New York, Sept 25, 26 and 27, 1894

WILLIAM J HERDMAN, M D, President

(*Continued from page 246*)

DR. EDWIN J HOUSTON read a paper prepared by himself and DR KENNELLY on some experiments on

DEATH BY THE ALTERNATING CURRENT

Having observed a communication in the *Comptes Rendus* of the Academie de Sciences, from M D'Arsonval in June, 1894, respecting a case of apparent death produced by accidental contact with an alternating current circuit, and the means successfully adopted for reviving the person shocked, we desire to enter our earnest protest against what we regard to be the unwarranted conclusion that Dr D'Arsonval has apparently drawn from this case, taken in connection with his previous experiments with animals While we do not for a moment doubt the correctness of the general observations in this case, nor that similar cases may frequently arise in practice, and while we are desirous of fully accrediting to Dr D'Arsonval the great value of the suggestions made by him, namely, that a person shocked by electricity should be treated as a person drowned, a treatment which we would indorse as being proper to employ in all cases where even the shadow of a doubt exists as to the actuality of death from electricity, yet we desire most emphatically to call in question the correctness of the general conclusion reached by Dr D'Arsonval, that because in this particular case resuscitation was possible, that all cases in which no marked lesions or evident destruction of the tissues are effected, death is only apparent and resuscitation possible

In the communication referred to, Dr D'Arsonval arranges all cases of the passage of powerful alternating currents through the human body into two classes, viz

1 Where lesion or destruction of the tissues is produced (Disruptive and electrolytic effects of discharge)

2 Where the excitation of nerve centers takes place, producing arrested respiration and syncope but without material lesion

In the first case Dr D'Arsonval claims that death is absolute, in the second, on the contrary it is only apparent As far as we can learn this classification, so far as human beings are concerned, is based on the actual observation of but a single case This case he appears to believe sufficiently convincing to warrant the conclusion that all cases in which alternating currents pass through the human body without producing evident lesions are capable of resuscitation

Further, Dr D'Arsonval appears to believe that the evidence in this case is sufficiently convincing to warrant the monstrous statement made in his communication that even in the electrocutions in the State of New York, death is not produced by the current, thus leaving the public to infer that it has been produced by the knife of the surgeon, in the autopsy which always follows

In view of the importance of the subject, we append a translation of the facts described in Dr D'Arsonval's communication as being those upon which he apparently bases his opinion

"The following is a statement of facts communicated by MM Picou and Maurice Leblanc two well known electricians who were eye witnesses of the accident and who rescued the man to whom the accident occurred When the accident happened at Saint Denis, the electrometer at D'Epinay connected between two of our three wires showed 1,500 volts, and an ammeter introduced in one of them showed 0 7 ampere

"At the spot where the accident occurred the three wires *were carried by insulators* supported by a bracket on the wall about 6 meters above the floor The man who was shocked was seated astride the lowest bracket holding one of the conductors in one hand He had with him a telephone wire which he was about to place in position This wire rested on the bracket on which the man was seated and came in contact with another of the three wires The circuit was closed through the man, entering by one hand and leaving by one buttock in direct circuit He was, therefore, subjected to the full pressure of 4,500 volts at a frequency of about 55 periods It is difficult to say precisely how long this circuit was maintained but certainly for several minutes The short circuit established set up sparks at the commutator of the D'Epinay apparatus The operator who attended it believed that an accident had happened on the line and telephoned to La Chapelle to stop All this represents a sufficiently long time We were leaving D'Epinay at the moment and we were already on the train when informed of the accident which had just happened About a quarter of an hour afterward we arrived at Saint Denis The man was still sitting on the bracket and gave no sign of life There was considerable difficulty in bringing him down and this operation took at least half an hour

"Following your advice, we practiced artificial respiration by manipulation of the arms and, at first, without result I then forcibly opened his mouth and pulled forward his tongue His lungs then operated almost immediately In two hours he could speak He was burned on the right hand and on the buttock He is now well

"Several days ago they wrote to me again, the injured man is progressing favorably It is to be observed that no particular trouble due to the passage of the current through his body has been manifested No attention has been necessary, except to his burns"

In the first place we desire to point out that the pressure alone of 4 500 volts mentioned is without significance, unless it is taken in connection with the current actually passing through the subject under such pressure We would also point out the fact that a marked difference exists between cases of the application of the alternating current, as employed in electrocution in the State of New York, where the current is deliberately conducted through the body for the purpose of killing, and such cases of accidental contact as that referred to by D'Arsonval Here, assuming the correctness of the ammeter reading quoted, namely, that a current of only 0 75 ampères was passing, the resistance of the body could not have been less than 6,000 ohms The resistance of the body between the electrodes used in the electrocutions of New York, *i e*, one on the head and the other on the right calf, is sometimes as low as 200 ohms and usually not more than 800 ohms, the current strength employed being from 5 to 8 ampères, say seven to ten times stronger than that which is stated to have passed in the case mentioned

In view of these facts we submit, that in our opinion, Dr D'Arsonval is entirely unwarranted in drawing the general conclusion already alluded to Unwilling, however to base our opinions on mere surmises, we arranged for a series of experiments on dogs in our laboratory, under conditions in which actual facts only were admitted Being unwilling to leave to our own judgments the question of the actuality of death, we were fortunate in securing the coöperation of the following eminent members of the medical profession in Philadelphia namely

Dr Judson Daland, Instructor in Clinical Medicine, University of Pennsylvania, Dr G G Faught, general practitioner, Prof L Webster Fox, Professor of Ophthalmology, Medico Chirurgical College Dr E Laplace, Professor of Surgery, Medico-Chirurgical College, Dr William L Zuill, formerly Professor Veterinary Medicine, University of Pennsylvania

One of the observers kept the time of all observations, a second recorded all the observations with the time of their occurrence, a third observed the reading of the Weston alternating current voltmeter placed across the supply mains, a fourth observed the reading of the alternating current ammeter placed in circuit with the dog The alternating current employed was from the street mains making about 130 cycles per second, and at a pressure of about 1 250 volts, reduced in some cases through a 1.5 K W transformer to about 700 volts Four good-sized dogs whose weights were noted were successively subjected to the current and the following observations made

Observations 8 30 P M September 18, 1894 The contacts in these experiments were made by cotton waste, thoroughly soaked in an aqueous solution of common salt of density 1 055, the waste being bound to the part with copper wire to which the electric terminals were attached

Dog No 1 Weight 31 5 pounds Contact points right forefoot, (carpus) and left hind foot Resistance of dog between electrodes 20,480 ohms Effective alternating voltage 1,250 Circuit closed through animal 8 35 to 30 to 8 35 to 50, i e, maintained twenty seconds On the closure of one of the first of the two switches in the dog's circuit, the dog experienced some sensation evidenced by excitement and yelping This was subsequently ascertained to be caused by leakage through the substance of the slate base of the remaining switch and was found to amount to approximately 2 milliampères On closing the second switch about three seconds after the first, there was instant rigidity of the animal, the dog leaping forward about a foot, the body balanced on hind legs as in standing, the fore legs apparently flexed, the plunging movement bringing the snout to the ground first, the animal then falling on its side Dog remained in a state of tetanus till circuit opened No cry made Some smoking at points of contact, but no burning 8 36 P M, muscles relaxed except in right fore leg where marked rigidity remained Flesh hot to the touch in the legs which had carried current, 8 37, no evidence of cardiac movement under stethoscopic examination, 8 44, contact points on body still show marked elevation of temperature 8 45, surface temperature of hind leg (left) 122 degrees F, 50 degrees C The rhythmic tractions of the tongue as advocated by Laborde of Paris, were continuously made from 8 45 to 9 13 without effect It was the opinion of all present that death was instantaneous and painless, and that resuscitation was impossible

Dog No 2 Weight 26 5 pounds Evidencing great fear
Rectal temperature 103 1 degrees F, 39 5 degrees C Contacts
right fore and left hind leg near carpus, 9 05 to 30 P M Resistance 17,430 ohms The voltage 600 before closing circuit,
685 during closure, 9 08, circuit closed for twenty seconds
through dog Current through dog 1 0 ampere steady Im-
mediately on closure the animal fell on his side without for-
ward movement in condition of tetanic rigidity Opistho-
tinotic curve of back No smoking of contacts Death evi-
dently instantaneous and painless, 9 11, body removed to
examining table, 9 12, no cardiac movement by stethoscopic
examination, surface temperature of body evidently raised
to touch Optic nerve pale pink, blood vessels full (normal
condition in dog stated to be veins prominent, arteries thin
and narrow) Corneal epithelium wavy, pupils dilated to
fullest extent Iris almost disappeared 9 16, rectal tem-
perature 104 degrees F, 40 degrees C, 9 17, veins on retina
have shrunk to a hair line Optic nerve growing brownish,
9 20, surface temperature, right axilla, 104 4 degrees F
(40 2 C), 9 34½, optic nerve pale In the opinion of all pres-
ent death was instantaneous and painless An attempt to
resuscitate it being considered hopeless

Dog No 3 Weight 44 pounds, short hair, 9 23 optic
nerve bright pink, pupils dilated Blood vessels full and
easily discerned, 9 35, rectal temperature 102 degrees F
(39 degrees C), contacts made one on each fore leg above
carpus, 9 40, stethoscopic examination of heart shows rate
60 per minute, 9 45, resistance 31,820 between electrodes
9 47, voltage 700, during application of current, steady at
690, 9 48, circuit closed and current maintained for ten sec-
onds Current steady 1 8 ampère Immediately on closing
the circuit the dog which had been lying quiescent on one
side was thrown into a tetanic state, except a slow waving
motion of the left hind leg which rapidly ceased, 9 49 P M,
deglutitious movements Corneæ insensible No cardiac
movement Apparent respiratory movements, 9 50 P M,
deglutitious movements still present, flexion of head no car-
diac movement Respiratory motion ceased, 9 53 P M, re
sistance between electrodes 1,207 Rectal temperature 102
degrees F (39 degrees C) Rigidity absent No perceptible
surface elevation of temperature, 9 55, optic nerve pale,
with complete change of color Arteries disappeared, veins
growing thinner, 9 55, 30, veins thin as hairs, completely
emptied in spots and presenting a beaded appearance, 9 56,
optic nerve grayish pink

In the opinion of observers, death was painless and took
place within a minute after the closing of the circuit, also
that movements after opening circuit were reflex and spinal
Immediate observation after opening circuits failed to show
any evidence by a stethoscopic examination of cardiac
movement, nor were they present at any subsequent time
It was also believed that it would be impossible to resuscitate

Dog No 4 Short hair, 29 5 pounds Optic nerve pink, blood vessels full Contacts made by cotton waste pads soaked in saline solution pressed into ears with ear flaps bound over them Heart rate 140 per minute, 10 11, resistance between electrodes 1,200 ohms, 10 13, voltage 700, 690 during application of current, 10 14 P M, circuit closed for five seconds Much smoking and slight charring of hair at electrodes Current not accurately measured owing to brief interval of application, but estimated at 6 ampères Progressive rigidity Rectal evacuations 10 15, irregular movements of extremities somewhat resembling those made in walking Most marked on left side Tail wagging, 10 16, same, more marked, 10 16, 30, eyes rotated upward and inward, moderate muscular rigidity of body, beginning to breathe, 10 17, horizontal symmetrical oscillation of eyeballs Pupils contracted, 10 17, 30, movement of eyeballs gradually ceasing, 10 18, movements of eyeballs ceased, 10 19, confused heart sounds indistinguishable, 10 19, 30, heart sounds now stronger Convulsive movements of eyeballs, 10 20, heart rate 108, intermitting every third or fourth beats, 20 21, respiration 28 per minute, leg apparently responds to touch, 10 23, Dr Zuill states that in his opinion the animal is not suffering, but is conscious It lies perfectly quiet, the respiratory movements good in volume and fairly regular, 10 28 cornea reflex present Pulling the tail is followed by movements in that appendage, (possibly reflex), 10 31, no response to sensation, such as pin pricking, 10 32, 30 rectal temperature 103 degrees F The animal lies in a position of full extension, 10 34, attempts voluntary movements to slight extent of disturbance, 10 35, 30, same more marked but unaffected, 10 39, evident response to disturbing touch Pupil markedly contracted, 10 40, contraction of pupil as persistent as when observed at 10 17 Hearing evident, responds by muscular movements to sound of a table dragged across the floor, 10 42 placed on his feet with difficulty, finally attempts to stand, but staggers and falls Coördination wanting and improving every second, 10 43, condition apparently dazed, respond to whistle and call Stands with difficulty and wags tail momentarily No evidence of suffering No sound or whimpering, 10 44, condition apparently stuporous, does not respond readily to call or whistle, but evidently notices both, 10 45, 30, again responds distinctly to call and whistle Standing with some effort and wags tail Apparently conscious Gives no evidence of suffering, except possibly slow to-and-fro movements of head may be due to pain in it, makes no sound or cry, 10 46, administration of chloroform, 10 47, unconscious with deep inspiration, 10 47, 30, stertorous breathing Hard, rapid, irregular and feeble, 10 48, heart stopped Relaxation of sphincters Dog dead

It was the unanimous opinion of the medical gentlemen
present that death was absolute and resuscitation conse-
quently impossible in the first three cases In the third
case, however, reflex movements exhibited themselves and
although the heart had ceased to beat when the first exam-
ination was made, death was not reached until about one
minute from the time of closing the circuit, also that in the
fourth case where a much stronger current under 700 volts
pressure passed through the head during five seconds, the
loss of consciousness was instantaneous and complete, but
the animal revived without the aid of artificial respiration

We desire to acknowledge our indebtedness to the able
scientific observers who aided us in this investigation, and
consider ourselves fortunate in having obtained for this pur-
pose the coöperation of men of such acknowledged eminence
in their respective specialties We hope shortly to be able
to make more complete investigation of the conditions under
which absolute death follows the passage of powerful alter-
nating currents

We believe that the following conclusions may fairly be
drawn as the result of these experiments

1 That the passage of a sufficiently powerful alternating
current through the body of an animal is followed by in-
stantaneous, painless and absolute death

2 That consequently, where electrocution is properly car-
ried out, there is not even a remote possibility of subsequent
resuscitation of the criminal

3 That in cases of accidental contact, where the current
passing is not excessive, it is quite possible that death may
be apparent only, and that the method of artificial respira-
tion suggested by Dr D'Arsonval should invariably be
followed

It is a remarkable fact that in the last experiment where the strength of current was much greater than in the previous instances and passed directly through the head (very trifling leakage only being possible over the surface of the skin) the effect of this current was much less upon the vitality than in the preceding cases

Dr Houston, in closing the discussion, said that Dr Morton had stated that the burden of proof rested with those who made a particular assertion Now, M D'Arsonval had asserted that those who were supposed to be killed by electrical shock had not been killed, therefore it was the duty of M D'Arsonval to prove his assertion However, passing by this point he would ask in all seriousness of this body of scientific persons, accustomed to weigh evidence and not sentimental vagary what their verdict was after weighing the evidence given by instruments that could not lie—the ammeter and the voltmeter? Assuming that the burden of proof rested on the authors of the paper, had they not more fully met this than the opposite side who urged that death was only apparent? Could they tell in every instance when a person was dead? Had they ceased to put confidence in the results of stethoscopic examination of the heart beat? Did they still disbelieve in the signs of death as given by ophthalmoscopic examination of the retina? Did they believe that four capable witnesses chosen by the State would declare deliberately that they believed the person dead when it was not so? Would they, as the leading body of electro therapeutists in this country, dare to assume the grave responsibility of throwing doubt on such a death? It seemed to him that the picture painted by Dr Morton was even more horrible than that painted by M D'Arsonval He only wished that the members could have been present and could have seen with their own eyes the instantaneous effect of the passage of the current through the bodies of those dogs, for, if there were any lingering doubts in their minds about the ability of the current to cause death, such doubts would have been quickly dispelled Electrocution was a most humane way in which a criminal could be executed Society for self protection, through its legally appointed bodies, had determined that certain lives should be stamped out, and it was but natural to attempt to produce as speedy and as painless a death as possible The same assertion had been made about death by the guillotine—that the severed head could for some time afterward do some great thinking Again, it had been asserted that some animals were harder to kill than others According to this reasoning, as the ready capability to death varied in different individuals, the fact that you could prove in the case of twenty people that resuscitation did not fail, did not prove anything in the case of the twenty first individual who might have been of a different type! In his opinion this argument was a dangerous one Death had been produced by hanging and every opportunity had been given for resuscitation, but it had failed Again, death by the electrical current was now very common, and there was a reasonable probability that in the case of every one who had been killed by such an accident every effort had been made to resuscitate him, and yet with one or two marked exceptions, resuscitation had failed As scientific men, Mr Kennelly and himself had tried certain experiments, and had brought before the Association certain facts, the correctness of which could not be questioned Did the members think that they would be justified as a scientific body in passing any such resolution as that suggested—a resolution which would pledge the Association, practically, to the belief that it had grave doubts as to whether or not death could be produced by the electric current? If that resolution were passed, he would certainly move to amend, by resolving that the authorities also be requested to inquire carefully as to the absoluteness of death produced by hanging

Dr A D Rockwell, of New York city, presented a paper on

GENERAL FARADIZATION

He said It has seemed to me that there is a general tendency to undervalue the faradic current at the present time I would urge that other mechanical measures such as tapping, massage, and rapid vibratory motions are equally serviceable It seems to me that those who take this view have a very incorrect appreciation of the faradic current Many years ago when I first began to use electricity in medicine my efforts were confined almost exclusively to the use of the faradic current For the time being it enabled me to concentrate my observation on this form of electricity, and one of the most common observations made at this time was the relief of muscular tire after prolonged muscular activity At this time there was a great pedestrian craze, and I had one of these pedestrians under my observation I made a general and thorough application of the current to him, and I recall distinctly how much more relief it gave him than the ordinary methods of massage and rubbing We do not have to seek far for an explanation of these phenomena Mechanical effects are prominent There is undoubtedly in these cases, cell exhaustion with sluggishness of the circulation and a deposit of a toxic product of metabolism, all of which are much benefited by mechanical action On this same principle it is, I think, that we obtain such excellent results from faradization in uterine congestion and induration—there being a sort of circulatory drainage produced If the faradic current gave only mechanical effects, we would still find it very useful in therapeutics But it also produces marked physiologic effects, accelerating the circulation and increasing the activity of the excretory and secretory functions To what extent these effects are purely mechanical, it is impossible to say, yet I think in addition to these mechanical effects there is a direct and peculiar effect on the nerves themselves So far as the galvanic current is concerned, we have advanced in the way of introducing new and better instruments of precision With faradic currents of high tension, passed through low resistance, especially by the bipolar method we get very valuable effects, but as regards the outward application I doubt very much if we have advanced greatly So far as my experience goes, the so-called continuous coil of twenty years ago, yielded a current the characteristics of which have not been surpassed as an aid to nutrition and as a general tonic It has always seemed to me that the most important thing in electricity in medicine is its nutritional power This idea of its influence over nutrition was enunciated by Dr Beard and myself over twenty years ago, and I have advocated it ever since After the particular form of electricity which gives these nutritional effects, opinions differ according to the extent and character of each one's experience Static electricity is a very valuable addition to our armamentarium and I could not do without it no one can afford to be deficient in the completeness of his electrical outfit With a magnificent static apparatus and all its pyrotechnic glory set in motion, the treatment becomes exceedingly simple, and I should be glad to assure myself that it was the most efficient method, and that it gave the best therapeutic results After many years of trial, I can not, however, come to such a conclusion I regret it in one way, because it is so easy of application, and requires comparatively little judgment In another sense, I do not regret it because it is a very expensive apparatus I should be sorry if it were necessary for every practitioner desiring to use electricity, to get such an apparatus So far as obtaining the nutritional effect of electricity, I think much good is accomplished by faradization alone Let me commend to you, general faradization alone It is a sort of child of mine, and parents generally commend their children It is a method which is tiresome both to the physician and patient, and requires both time and attention to the details, but my own experience for many years past is such that I look upon it as a most important therapeutic resort The majority of those who use it, use it in a haphazard and incomplete way, sometimes even relegating its work to a nurse

DISCUSSION

Dr W J Morton, said that none could fail to appreciate the pleasure and honor of having Professor Houston at this meeting, or fail to appreciate the high scientific work represented in this paper by the authors Accordingly, if any differences of opinion were expressed it would certainly be in the most courteous spirit He was one of those who differed with everything that had been stated in the paper except as to the scientific data He could not agree with the attitude and logic of the writers of the paper They started by saying that the conclusions of M D'Arsonval were unwarranted, questioning the facts concerning the death of an individual observed by D'Arsonval, and stating that one such case did not prove anything The State claimed that the criminal subjected to electrocution was killed He would say that the proof that death was so produced should be offered by the State yet this had not been done The burden of proof lay on the State authorities It had been asserted that this claim of M D'Arsonval was "monstrous," but it seemed equally monstrous to submit a person, who was the victim of electrocution, to the knife without proof that the electric shock had actually produced death There seemed to be only one way to settle this question, and that was 1, after the supposed electrocution to endeavor to resuscitate the victim for he might be in a state of trance and conscious lines laid down there, and nothing has yet occurred to change my views as therein expressed On the contrary, a riper experience confirms me in the belief that it is, as I have said the only satisfactory and rational treatment of these conditions

Dysmenorrhea dependent upon any of the above named conditions as a cause is promptly relieved by faradization, especially if negative galvanism of the endometrium is employed conjointly The induced current is also useful in relieving the pain associated with fibroid growths of the uterus

In relaxed conditions of the uterine supports, allowing descent of the organ, the faradic current is particularly useful, here the coarse wire current is most often indicated, but in some cases fine wire stimulation is better tolerated and is to be employed in the beginning It is necessary, however, to make the current as stimulating as is possible for it to be borne without producing actual pain and discomfort

One case which I recall will serve to illustrate what this current can accomplish in these relaxed conditions The patient who was referred to me by Dr F C Valentine of this city, was 26 years old and suffered with complete procidentia resulting, no doubt, from repeated miscarriages The condition had existed for several years when she came under my observation and most of the time the uterus was completely prolapsed outside of the vulva It had been impossible to find a pessary which would remain in the vagina, and the only relief she had been able to obtain was from hot water douching When this was employed and she remained on her back afterward the uterus would not come down for an hour, but if she assumed the erect position it would immediately protrude The uterus was enlarged and heavy, though the cervix was not lacerated and the perineum was intact I advised bipolar faradization with the coarse wire current After the first application, which was given in my office, the uterus did not protrude for several hours though immediately afterward she returned to her home a distance of several miles After the second application it was retained for twenty-four hours, though she was constantly on her feet At the end of a week, the application having been repeated every day, the uterus occupied the normal position in the pelvis, except that it was retroflexed The applications were afterward made at longer intervals and a complete cure was obtained

I will not burden this discussion, or tax your time, by relating in detail in support of the value of this current in the pathologic conditions enumerated, but I can not refrain from a brief mention of some cases where it seems to me the results obtained have been more than ordinary

For instance, Mrs A, a young married woman, consulted me in the summer of 1893 for pelvic trouble, having been told by several gynecologists that laparotomy was necessary for the removal of the pelvic organs She had been married four years but had never been pregnant Examination revealed an endometritis with the right tube considerably distended and the left thickened, ovaries enlarged and excessively tender Here was a case with a grave outlook for conservative treatment, she had declined an operation and had been referred to me, believing that I could cure her without removing the diseased organs It was impossible for me to promise from treatment anything more than temporary relief of the symptoms, and I frankly said I would do all I could for her, but I also thought an operation would ultimately be required I found, however, that the treatment instituted established drainage of the tubes into the uterus and the distended tube rapidly diminished in size She was kept under treatment for two months when she left for the West to join her husband, who is an actor, her condition being so greatly improved that further active treatment was deemed unnecessary She wrote me in the early part of the summer that she had been perfectly well since discontinuing treatment though now she thought she was pregnant Within the past month I have seen her and find that pregnancy has advanced to the seventh month This is the best possible evidence that the cure is complete

I recall another case of a milder character which also illustrates the value of this current The patient, a young married woman, was referred to me by Dr R W Taylor of this city A year before coming under my observation, a prominent gynecologist advised laparotomy, but it was declined, and she improved somewhat under the treatment then instituted, though she continued to suffer particularly at her monthly periods The diagnosis in this case was endometritis with anteflexion and catarrhal salpingitis and ovaritis Faradization and galvanism were both employed A cure was complete at the end of three months

By way of conclusion, I will show you some improved patterns of induction coils, in which are embodied the essential features suggested in my communication to this Association at its first meeting in Philadelphia I have had this particular combination of coils in use now for more than two years, and am fully convinced that the variable qualities of the current as obtained from these different coils make the apparatus suitable for all purposes where the faradic current is to be employed

After the adjournment of the morning session, DR GOELET exhibited various forms of faradic apparatus, and explained the advantages and disadvantages of each

(*To be continued*)

SELECTIONS

Advances in Brain Surgery—(von Bergmann before the Congress of the German Society for Surgery in Berlin) He alludes quite briefly to the operative treatment of cranial tumors According to Starr's trustworthy researches, out of 100 tumors of the brain only 6 are at the same time recognizable and removable, and of these a successful operation will be performed upon scarcely a half So surgery can do little enough in the treatment of such affections, in spite of the advances in diagnosis and particularly in the technique of operations The hope to cure epilepsy, at least Jacksonian, by operation proved deceptive, and one can now really regard as an object for surgical interference only those cases of cortical epilepsy, in which a tumor, for instance a cyst, which may arise not altogether rarely from a traumatic intra-meningeal extravasation, lies in or over one of the circumscribed cortical centers

Very significant, on the other hand, are the advances in the domain of the surgical treatment of intracranial suppurations, especially the aural abscesses involving the brain, the meninges and the sinuses These are relatively rare Out of 1,000 acute and chronic suppurations of the ear, three or four cause death from extension to the meninges, the sinuses, or the brain itself The chronic processes are particularly dangerous, and especially those arising from masses of cholesteatoma in the inner ear Those cases are very critical which are marked by acute or subacute outbursts and have an intermittent fetid discharge, and in which at the same time temporary obstructions arise to the discharge of pus, through the growth of polypus-like granulations in the middle ear and the deeper part of the external meatus

The aural affections of the brain, the meninges and the sinuses begin, as a rule, at the point where the original suppuration in the temporal bone has pushed up to the vault of the skull But a main point of aural suppuration is the cochlea Thence the process spreads in two directions, into the mastoid antrum, and through its roof, the tegmen tympani The spread of suppuration in the latter direction leads directly to a pachymeningitis, from this to an extradural (epitympanitic) abscess or to an intradural abscess of the brain Most cerebral abscesses of aural origin lie in the temporal lobes, and so the chief extension is through the small and circumscribed point of exit in the vault of the tympanic cavity Bergmann explains his method of reaching the roof of the tympanum from the cranial cavity by lifting up a parallelogram 2½ cm high by 3–6 cm wide from the vault of the temporal bone, and shows how one can in this way easily enter the mastoid process, the external meatus and the sigmoid fossa

The greatest advance which brain surgery has made in recent years, Bergmann sees in the operative treatment of thromboses of the sinuses caused by and associated with suppuration Most of these are due to the extension of aural affections of the mastoid process to the wall of the sigmoid fossa and the consequent infection of the adjacent sinus wall In many cases there is extensive suppuration enveloping the sinus, very often at the same time epitympanal abscess It was Zanfall's idea to thwart the disastrous results of septic thrombi of the transverse sinus by tying the jugular vein and then opening and clearing out the sinus The sinus can be reached also from the mastoid process as well as from the cranial cavity after craniectomy at the vault The latter method Bergmann describes as the ultimate supplanter of the former. Thrombosis of the transverse sinus with the abscesses around the sinus is also the usual connection between middle ear suppuration and abscess of the cerebellum, the latter generally situated near the sigmoid fossa —*Wiener Klinische Rundschau*, June 23 1895.

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SATURDAY AUGUST 17, 1895

PROFESSOR HUXLEY

The death of this very eminent man who was an educated physician and most learned biologist and teacher, brings out one phase of his work which every physician should copy All his writings are models of concise exact expressions conveying the precise meaning intended This was not easy to him, but was acquired by hard labor and persistent study Many of his works were written three and four times over, and cut down and altered continuously He explained that his idea of good writing was to make it so clear and concise that no critic could draw any other conclusion but the one intended In this he succeeded, and the various polemic discussions he had with learned theologians always brought out a clear, crisp, ringing range of thought, in contrast to the heavy learned logic of his opponents

Physicians and even teachers show great faults in this direction PROFESSOR HUXLEY's idea that clear methods of expression were equally essential to the thought itself, is not recognized in much of the medical literature of to day The slang phrase in newspaper offices, "boil down," meaning condense, is only valuable when combined with clearness and exact words, that have only one meaning in the form they are used

PROFESSOR HUXLEY's writings are models of scientific clearness, and should be studied While his work was not along the lines of practical medicine, he rendered great service to the higher ranges of comparative anatomy and paleontology He was not only a great teacher, but he was a great student all his life Nothing that interested him was examined or studied in a superficial manner, or presented to the public in a vague uncertain way He never grew egotistical with all his learning, but rather became more conscious of his limitations, and the great unknown world that widened constantly about him He was literally a self-made man, coming from a family of school teachers, and was obliged to earn his living and rise by his own exertions exclusively He died, one of the leading scientific men of this century, whose name and work will be most intimately associated with the scientific advances of the age Science, to him, had no commercial side It was the search for truth, for the pleasure it gave

"MODERN HYGIENE"

In an editorial article under the above title, a valued contemporary[1] makes an assertion which the JOURNAL has been unable to verify, and yet which involves a question of such practical importance, both to health authorities and to the public, that it demands verification if correct, or withdrawal, if the reverse, because of the mischief that might result if accepted as a basis of action by those charged with the protection of the public health

The text of the editorial is a circular on tuberculosis for the guidance of the laity, issued by the Health Commissioner of Brooklyn and in which, according to our contemporary, "conditions seem to have been taken for granted which are not by any means incontrovertible facts, on the contrary, to some extent, they can be proved to be incorrect, and unless the ground upon which such provisions are based is indisputable and capable of being defended against any attacks of authorities upon such subjects, health authorities should be very cautious in formulating laws with regard to matters of this nature "

After commending, with some reservation, the advice in the circular that "consumptives should not spit upon the sidewalk, or on public conveyances or in places of public congregation"—advice which it very properly urges should "be extended so as to include everybody, whether consumptive or not"—our contemporary says, "it has been found, however, that *tubercle bacilli die in the sputum as soon as the latter becomes thoroughly dry*, which fact will considerably diminish the urgency for such a law " If this really is a "fact" it must be admitted that not only the urgency for a prohibition of indiscriminate expectoration would be considerably diminished, but that the spread of consumption is by no means to be limited so easily as optimistic sanitarians assert in their circulars and other preachments

But, is it a "fact?" Without having made an exhaustive search of the literature of the subject, the JOURNAL will not undertake to deny the assertion, but would like "a bill of particulars " The only quasi-affirmative statement recalled is that of PROfessor Koch at the Tenth International Medical Congress, Berlin, 1890, to the effect that, when exposed to direct sunlight in sputa, the tubercle bacillus is killed in from a few minutes to several hours, depending upon thickness of the sputum, but in diffuse daylight it survives from five to seven days This, however, can hardly be the basis of our contemporary's assertion, since it takes no account of bacilli expectorated in cloudy weather or otherwise protected from the direct rays of the sun

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[1] Medical Review July 20, 1895

On the other hand, the *previous* experiments of Koch, Schill and Fisher[2] show that dried tuberculous sputum retains its infectiveness for several months, though gradually diminishing in degree, Cadéac and Mallet[3] dried and pulverized the lung of a tuberculous cow, and were able to produce tuberculosis in guinea pigs by its inhalation at the end of one hundred and two days Lawizky's experiments[4] to determine the length of time of the infectiveness of sputum in living rooms, show that, while the virulence is gradually lost, it is retained for from two to five months in the diffused light of an ordinary living room So resistant, in fact, is the bacillus to heat and desiccation that Fraenkel and Ehrlich were led to study the possibility of spore formation to account for it

From all of which it would appear that the "sometimes greatly erring health officers," who, "in a circular of this kind portray the present tendency of sanitary efforts of overzealous enthusiasts," are still in good company and, at most, can only be asked to modify their advice to consumptives to the extent of restricting them from spitting on cloudy days, and of urging them to secure exposure of their expectoration to the action of direct sunlight

MILITARY SURGERY OF THE FUTURE

An interesting abstract of Sir William McCormac's address before the British Medical Association at the annual meeting last week, is cabled by the London correspondent of the *New York Sun*, under date of August 3 The eminent surgeon's theme was the effects of the latest forms of weapons used in recent wars, and a forecast of the surgery of the next great war The new fire-arms, throwing smaller projectiles at higher velocities, do not seem to possess the disabling power of the larger caliber weapons which they are superseding, but the increased ranges, the greater rapidity of fire and the use of smokeless powder must result in a larger proportion of wounded, even though the injuries should be less serious from a surgical standpoint

The important matter for consideration is, will the injuries inflicted by the new projectile be more amenable to successful treatment? Volkmann had pointed out that the subcutaneous character of gunshot injuries of bones and joints makes them less dangerous than compound fractures, with the more extensive damage to the soft structures produced by other causes During the recent war in Chili, flesh wounds, which had not been probed and thus infected, healed rapidly The favorable character of the lung wounds was especially noticeable, and bones were less comminuted and were united in about half the time formerly required Dr Riviero, of Valparaiso, had made similar observations, he had noticed the smallness of the apertures made by the Mannlicher bullet, and the injuries generally were less dangerous to life Similar results were observed by the medical officers of the Chitral expedition The British troops were armed with the Lee-Metford rifle and Surgeon Burden reported that its wounds through soft tissues, at both short and long ranges, were clean and incised with little bruising and healed quickly Holes through bones were made with little splintering and in no case was there any explosive action The damage caused by the large bore bullets of the enemy was much more severe

It might be taken for granted that the number wounded, in proportion to the number engaged, would, in the future, be much greater than before, and the supply of ammunition would be larger as the facility for carriage would be greater Moreover, smokeless powder would increase the accuracy of aim and Sir William thought the next great war would be more destructive to human life, and that the number of injuries, and, in many cases, the severity of the injury, would be largely increased, but very many cases would remain less severe in character, more capable of successful treatment and less likely to entail future disablement, while improved sanitation and antiseptic methods would increase enormously the proportion of the recoveries

BACTERIOLOGIC EXAMINATIONS IN NORTH CAROLINA

The July Bulletin of Board of Health of North Carolina, conveys the information that bacterial investigation is an accomplished fact in that State The Secretary, Dr R H Lewis, gives the following account of the beginnings of this most commendable advance in the "Old North State "

"At the conjoint session of the Board with the State Medical Society at Greensboro, in 1894, Passed Assistant-Surgeon Kinyoun, who was present as the representative of the U S Marine Hospital Service, announced that the Service would be glad to give, in its laboratory at Washington, free of charge, a six weeks' course of instruction in practical sanitary bacteriology, to duly accredited representatives of our Board Drs Albert Anderson, of Wilson, and W T Pate, of Gibson's Station, promptly signified their desire to avail themselves of the opportunity

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[2] Mitth aus dem K Gesemdheitsamte, Bd ii 1884

[3] Etude experimentale de la transmission de la tuberculose par l'air expire et par l'atmosphere Rev de Med No 7, 1895

[4] Inaugural Dissertation, St Petersburg 1891

They were duly accredited, and in January of the present year went to Washington, at their own expense, and spent the full time in practical study and work under the immediate instruction of Dr Kinyoun"

Since their return, they have each fitted up a laboratory, and are now prepared to make biologic examinations of drinking waters, and of the cultures in suspected cases of tuberculosis and diphtheria They have agreed to a special arrangement for official work in drinking waters Owing to very small appropriations by the State, permits for such examinations, at the expense of the Board are given with much circumspection Physicians who suspect a water as the cause of disease, must first submit the matter to their county superintendents of health or to the health officers, if there be such in their respective localities, who will report to the Secretary If, in the judgment of the latter, the expense would be justified, a permit will be issued, with the necessary instructions regarding the taking of the sample for examination The Board will pay for the work done under this form of permit

We trust that this modest initiative will result in a substantial appropriation by the Legislature of the State, for the building up of a well organized State laboratory for sanitary investigation

NEUROIDIN, AN ANALGESIC

Dr Ugo Lippi has, in *Il Policlinico*, given an account of his experiments with the new analgesic remedy of Von Schering His experiments included those made on persons not having pain of any kind, in order to determine the limits of tolerance of the drug, and the possible toxic effects which might be caused by it Also, experiments were made on persons suffering from pain of various kinds, either in the form of neuralgia, or as symptomatic of organic lesions These included four cases of sciatica, one case of slight attacks of angina pectoris in a patient with atheroma of the aorta, one case of intestinal pain caused by malignant growth of the retroperitoneal glands, one case of neuralgia in a person suffering from polyneuritis, one case of brachial neuralgia in a neurotic subject, one case of gastric pain caused by epithelioma of the gall bladder, one case of headache in a neurotic person, the subject of a neuralgia simulating polyneuritis, one case of neuralgia of the bladder and stomach in a patient suffering from cancer of the liver, one case of muscular pains, probably rheumatic, in a tuberculous subject, one case of pains in the arms, symptomatic of spinal irritation

As a result of these experiments, Lippi draws the following conclusions

1 Neuroidin may be given in doses from 0 5 to 3 grams, these are effective and well borne, and may be repeated several times a day

2 These doses are perfectly harmless, and produce no other ill effect than occasional diarrhea, with or without intestinal pain

3 Hardly any physiologic effects were noticed, in rare cases there was a very slight diminution in the heart-beats, no marked effect on the kidneys was observed

4 As regards the analgesic action of the drug, it was found to have the property of soothing and even abolishing pain, whether neuralgic in character or symptomatic of an organic affection, its action, however, is uncertain, and notably inferior to that of other similar remedies, such as phenacetin and antipyrin The remedy is not readily soluble in the vehicles in common use

ALCOHOL BY SYNTHESIS

Chemists have known that ethylic alcohol can be made artificially, and with such exactness that it can not be detected from alcohol made by natural processes The alcohols of commerce are governed by a breaking down process, from a complex to a simple, by transforming starch or sugar through the aid of yeast and fermentation Building up alcohol synthetically from carbon hydrogen and oxygen is a new phase that promises great revolutions in many directions of science and art

The recent discovery of Mr Wilson, of acetylene gas from lime and coal dust treated with electricity from carbon electrodes, has made it possible to produce ethyl alcohol so cheap that all other processes will be abandoned Organic chemistry has been leading in many fields of commerce, and the question of building up products in demand, cheaper than they can be made by natural processes, is answered affirmatively by the constantly increasing substances on the market Fruit flavors, colors, and sugars and many other products are made far cheaper and of equal value to the same substances as produced by nature

Foods of various kinds are now made in the laboratory, and chemists have asserted that not far away beefsteak will be built up and furnished to the masses The possibility of doing artificially or chemically what is now done by nature, seems to be limited only by a want of sufficient knowledge and control of natural forces Should Wilson's discovery of cheap acetylene prove to be what is expected, ethyl alcohol will be made for 2 or 3 cents a gallon or less Its uses in the arts will be largely increased, and as a beverage it can be cheapened to an enormous extent to the consumer The occupation of distilling will be superseded, and the manufacture of whisky and other alcoholic beverages will change, and the great problems which center about them commercially, scientifically and socially, will have new features

Who can predict what discoveries will follow in the combinations of carbon, hydrogen, oxygen and nitrogen, and the possibility of tearing them down and putting them up again?

WAIVER OF PRIVILEGE MAY BE MADE AT ANY TIME

The New York code provides that "a person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity" This, another section declares, applies to any examination of a person as a witness, unless expressly waived upon the trial or examination by the patient

Commenting upon the foregoing, the general term of the Supreme Court of New York says, in the case of Dougherty v Metropolitan Life Insurance Company, decided May 13, 1895, the Legislature locked up the secret and gave the key to the patient He can forego the privilege, and unlock the lips of the doctor The statute requires that to be done expressly upon the trial, but there is no method prescribed for the accomplishment of the object If the patient be alive, an entry upon the record at the trial by his counsel would be sufficient In case of his inability to attend the trial, a written stipulation signed by him, and entered upon the record, would remove the prohibition That being so, it must certainly be immaterial when the stipulation is signed It may be signed long before the trial in anticipation of that event, and with the design of having it used thereat, as by signing an application for life insurance containing a stipulation that such statutes as the above "are hereby waived, and it is expressly consented and stipulated that in any suit on the policy herein applied for, any physician who has attended or may hereafter attend the assured may disclose any information acquired by him in any wise affecting the declarations and warrants herein made" The reasonable construction of the statute, says the court, is that the provisions are expressly waived upon the trial if a proper stipulation to that effect be produced thereat, and entered upon the record, regardless of the time when the waiver was executed Nor is the provision for such waiver contrary to public policy The general public can have no interest in the execution of the statute in question Its operation can neither be injurious nor disadvantageous to the public, and it is not opposed to good morals It simply prescribes a rule of evidence between party and party upon the trial of a cause

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION

It is hard to separate the enthusiastic members of our profession, and it is certain that they will come together without regard to geographic boundaries, at the Detroit meeting The program, elsewhere printed, shows no lack of good papers, an average of nearly twenty for each day being promised, and the well-known hospitality of the citizens and the Detroit profession insures that all available time will be spent profitably and agreeably

The Mississippi Valley Society has now become a National medical society, and is rapidly extending its membership east of the Alleghenies—and it is pleasant to record that nine-tenths of its members are loyal members of the American Medical Association and enthusiastic workers in the great cause of professional organization

We doubt not, however, that gradually the medical men of the whole interior valley of North America, as described by Drake, will become one medical organization, potent for good to all worthy members of the medical profession

Wisconsin Session Laws —The statutes enacted at the last session of the Wisconsin Legislature are now published and made accessible to the public Elsewhere we print such extracts from them as are of interest to the medical profession

CORRESPONDENCE

Letters to my Hospital Internes, Past and Present

By Casey A Wood, M D, of Chicago

II

Paris, July 14, 1895

Gentlemen —Perhaps the most noticeable fact connected with the more prominent oculists of Paris is their foreign names and origin We find several Germans, a Pole, a Greek, a Netherlander and even a Canadian graduate on such a list Whatever else this may mean, it is at least evidence of the tolerant and cosmopolitan character of French surgery Evidently, also, they have been asked by the French public, not where they were from, but what they knew about ophthalmology

Probably the best known ophthalmologist in Paris is De Wecker (public clinic 55 Rue Chercher Midi, 4 P M daily, operations at 5 P M), one of the fathers of ophthalmology and justly celebrated as author, teacher and operator He has always a large following of students and patients and is very courteous to strangers He showed me his new glass and-nickel steel operating chair, made on the model of one in which he said he had done 30,000 operations He gave his own anesthetic on several occasions, not for want of an assistant but because he had "views" upon the subject of general anesthesia De Wecker prefers the illumination from a small electric hand-lamp, while operating, to sun light, as he thinks that the operator, his assistants and the onlookers can all see better It seems to me that this is merely an example (and we find many of them among surgical appliances) of the adaptation of an instrument to the requirements of a particular surgeon He finds that some form of instrument suits *him* better than any other and forthwith discovers reasons why it should be adopted by the rest of the world De Wecker is markedly short sighted and is obliged to approach his own eyes to the patient's face while operating, consequently an electric lamp *is* better for all concerned when *he* is operating

I saw Panas, another well-known oculist (professor in the University, Hotel Dieu, fifty-nine beds for eye patients, entrance off the Place Notre Dame, noon daily, operations 2 P M), and the man who advocates the substitution of biniodid of mercury for sublimate as an antiseptic in surgery, on the ground that it is less irritating than, is quite as good a germicide as, and can be more effectually employed in one half the dose of mercuric chlorid Lately he has been in the habit of using the iodid dissolved in sterilized olive (or almond) oil as an antiseptic application to the lids and lashes (and for hypodermic injection in general medication) before operating for cataract The ocular region generally is thoroughly cleansed the evening before the operation and the oil applied The eye is then bandaged until the moment of operation Laboratory experiments have proved that the conjunctival sac and the lid edges contain fewer pathogenic bacteria after this treatment than when any other plan is followed, also the evidences of ocular hyperemia are few or wanting During the operation he uses a large Graefe knife and cuts through one half the corneal circumference His extractions are without iridectomy and he does not hesitate to employ what appeared to me to be a good deal of force and much manipulation in replacing the iris, using a large scoop-like repositor But this rough treatment, he says, is never followed by iritis He has given up the use of the syringe for washing out the anterior chamber after removal of the cataract, since employing the iodid oil solution The presence of pathogenic microbes is what he fears in producing ocular inflammation rather than traumatism (*e g*, the use of the iris repositor) or foreign bodies in the anterior chamber—such as lens matter and capsular remains after cataract extraction He uses eserin ointment 1 per cent. after the operation for cataract, then iodoform dressing, both eyes being bandaged for three days

Some of the English operators, Lang, for example, always examine the eye twelve hours after such operations, as in their experience prolapse of the iris occurs, if at all, within that time They also say that the prolapse is more easily dealt with then than later

After enucleation, Panas sutures the conjunctiva and puts in rubber drainage, thereby securing a better socket for the artificial eye

I saw a good many cases dressed with iodoform in all the clinics, and I can not help thinking that the French nose is after all less susceptible to that odorous application than are our American olfactories, you will remember that even the poorest public patient objects, with us, to iodoform dressings when applied to the nasal region

In the clinic of Abadie (172 Boulevard St Germain, 1 to 4 daily, operations at 3) I saw the chief give a subconjunctival injection of one drop of a weak eserin solution immediately after removal of cataract He did his extraction without iridectomy, like almost all the French operators—as opposed to the English surgeons, of whom it may be said that the converse is true Abadie, for cataract extraction, uses an eye speculum with the spring turned toward the nose, having previously cleansed the conjunctival sac with cotton-covered retractors This latter proceeding recommended itself to me since reading Gasparini's report, in which he showed that the useful action of certain fluids (borated solutions, sterilized water, weak bichlorid mixtures, etc), employed in irrigating the eye, depends not so much upon their germicidal powers as upon the stream of water acting as a mechanical agent in detaching and washing away the colonies of cocci

Abadie's first assistant kindly showed us a number of syphilitic patients whom he was treating after the method of Marcelli, of Milan, by the intravenous injection of mercuric cyanid When employed in the usual hypodermic manner the following is the formula commonly prescribed

Cyanid of mercury	1	grm
Muriate of cocain	0 50	ctgr
Distilled water	100	grms

Of this, 1 cubic centimeter every two days The cocain is omitted when the injection is made *intravenous*, *i e*, into any of the superficial veins of the arm, and a centigram is given at one dose every two days A special syringe is used, there is very little pain and I saw no disagreeable after effects Abadie claims from this treatment much better and earlier results than when mercury is given by inunction or by any other method

The Quinze Vingts, probably so-called because it had 300 beds when first founded, is one of the oldest hospitals in Paris and has connected with it the largest indoor eye hospital in the world—the *Clinique Nationale d' Ophthalmologie* (Rue de Charenton, 28, daily clinics, 11 to 12, operations at 1 P M) with 100 beds and a very large dispensary practice Prominent on its staff of surgeons is A Trousseau, a member of that family illustrious in the annals of French medicine He is a very genial man and received us with great kindness I have never seen a more rapid operator in any department of surgery The way in which cataracts were removed, squints straightened and lid operations performed was simply amazing

The Gilet de Grandmont operation for congenital ptosis was done in two minutes, while cataracts were extracted in about twenty seconds! For the latter, which were without iridectomy, he used only a Graefe knife like the English operator Critchett Separating the lids with his left thumb and forefinger, he quickly punctured the cornea, used the point of the advancing knife as a cystotome, made his counter-puncture, completed the incision, pressed upon the lower third of the cornea with the back of the knife, and before one could say " Jack Robinson," the opaque lens lay upon the cheek I saw him do half a dozen such operations, with good immediate results inside of fifteen minutes A starch bandage was applied in all the cases To this hospital are also attached Valude (operates every Thursday at 2 P M), Kalt, who sutures the corneal wound after cataract extraction to prevent hernia of the iris, and others Regular instruction in ophthalmology, illustrated by cases from the vast supply of clinical material at hand, is given by members of the staff and is practically free to all comers The assistants in this hospital have unusual opportunities for doing major operations upon the eye They are chosen by competitive examination and the appointments are eagerly sought after

Landolt (12 to 2, at his clinic, Rue St *Andre' des Arts, 17)* is the ophthalmologist who has translated into simpler language those complicated formulæ connected with physiologic optics to be found in the exhaustive treatises of Helmholtz and Donders Indeed, most of the smaller works and text-book chapters on the refraction of the eye, that have appeared during the past ten years, have been copied from his masterpiece, ' On the Refraction and Accommodation of the Eye " He is still a young man and speaks and writes admirable English Every American visitor or student may count upon receiving a cordial welcome from him I regard his early and smaller work on the "Examination of the Eye" as the best thing of the kind yet published Unfortunately, it has been out of print for several years and so far, the author has not seen fit to re-write it

The *Hospice de la Salpêtriere*, combination of hospital, poorhouse and lunatic asylum with its 3,800 beds for women has attached to it, as surgeon oculist, Dr Parinaud (his own clinic *in the Avenue de Clichy*, No 50, is held daily) who is probably best known as an authority on hysterical amblyopia and on the relations of the eye to nervous diseases generally I saw several of his cataract cases where the corneal incision was made, without subsequent iridectomy, within the clear cornea in such a manner (he claimed) as to insure early healing of the wound and to form a sort of corneal dam against extrusion of the iris His clinic is a very interesting and instructive one and might, with benefit, be attended by every medical visitor to Paris He speaks little or no English Parinaud's first assistant, Morac, has also written extensively on subjects of special interest to the neurologist

The personality of Galezowski, one of the oldest and best known oculists in the French capital (Rue Dauphine, 41, daily 1 to 3, operates 3 to 4) rises superior to one's judgment of him as an ophthalmologist He has by far the largest private clinic in Paris and probably as large a student following as any other teacher In his overcrowded and far from (surgically) clean operating room, aseptic conditions can not possibly be obtained nor was there, so far as I could learn, that attention given to the measurement of refractive errors or the correction of muscular anomalies which one sees in some French and in most English dispensaries Still there is a peculiar fascination about the man and his teachings that seems very attractive to students and patients At the same time one can not help wondering whether the enthusiastic hopes of these patients are more frequently realized than are the calmer prognoses extended to the *clientèle* of other dispensaries The crowd at Galezowski's seems as large and expectant as when I first visited Paris in 1886 I do not intend by these words to depreciate the work which Galezowski has done for medicine generally, because that is valuable and forms a part of modern ophthalmology

This ophthalmologic sketch would be incomplete without a reference to Dr George J Bull (4, Rue de la Paix, 2 to 4 daily) an American graduate, who has won a place in the front rank of Parisian oculists He was associated for a number of years with Javal of ophthalmometer fame and that instrument probably owes more to Bull than he is willing to admit At any rate his compatriots in medicine will always find him willing to advise them as to the best way to get about the Paris hospitals

I regret that I was unable to visit Meyer, Oswalt, Darier or d'Espagnet as I intended, and will, consequently, say nothing about them, but the man who is interested in diseases of the eye ought, when time permits, look them all up

Since I last visited this city, several surgical instrument makers and dealers in optical apparatus have come to the front In addition to the well known firms of Collin, Nachet and Lüer (now at No 6, Rue Antoine-Dubois) I have had satisfactory dealings with Roulot, 58 Quai *des orfevres* and Major et Genisson, Rue Racine 23 As the question of surgical appliances so frequently arises in the case of the medical traveler, let me give it to you as my opinion that London still retains her old preeminence as the place to buy most cutting instruments, but that in other respects New York excels With the exception of certain *souvenirs de voyage*, which one picks up in every city, and the knives and scissors of London, I would not now buy a franc, a gulden or a mark's worth of office furniture It can be better and almost as cheaply purchased in our own country I believe that we shall be able, before many years, to say the same thing about our medical instruction At least such is the impression made upon me, by comparing what I have, so far, seen of French, German and English methods In my next letter I hope to give you my experiences of some Dutch and German hospitals

(To be continued)

No Boylston Prize Awarded —The Boylston Medical Committee of the Harvard Medical School awarded no prize this year —*Boston Medical and Surgical Journal*

The Reorganization of the Harlem Hospital of New York

New York, Aug 8, 1895

To the Editor —There have been some changes recently made in the medical management of the Harlem Hospital of New York, by the Commissioners of Public Charities and Corrections, and connived at by the faculties of two medical colleges, which every honest, fair minded member of our profession must look upon as most reprehensible, harsh and unjust

With the advent of those new officers who came in with the change in politics, in the early spring, a disgruntled member of the profession who had been expelled from the hospital service, through one of the newspapers made a savage attack on the entire medical staff of the Harlem Hospital Shortly after this, without an intimation of any description beforehand, the Commissioners—a board of laymen—gave notice of a reorganization of the Harlem Hospital staff This staff consisted of Dr John G Truax, visiting physician and executive president, Dr S T Armstrong, visiting physician, Drs Thomas H Manley and C B White, visiting surgeons, and Dr A Palmer Dudley, gynecologist

As soon as the medical board came into possession of the knowledge of the proposed changes, or reorganization, they appealed to the Commissioners for an explanation, who answered, that they proposed to transfer the medical management of the hospital over to the three medical colleges and the ex collegiate of Bellevue, and that if the former members were renominated by the colleges, they—the Commissioners—would appoint them, at the same time the medical board being assured that there were no charges against them Three members of the medical board were graduates from out of town, one, Dr Truax, from Rush, of Chicago, Dr Armstrong from St Louis, and Dr Dudley from Dartmouth, N H Dr Manley was a graduate of the University of New York, entering the hospital service as an interne in 1875 Dr Chas B White was a graduate of the Bellevue Hospital Medical College, entering the service through that faculty

It therefore would seem certain that, under the circumstances, Drs Manley and White, who were graduates of New York colleges, would be vindicated and returned to the service In the meantime, the Commissioners enlarged the hospital staff from five to eight, abolishing the gynecologist and requiring the colleges and ex-collegiate to make each two nominations And now comes the most despicable part played by the two medical colleges, who ignored their plain and imperative duty to defend their own alumni Both Bellevue and the University took advantage of the opportunity to nominate four physicians, in spite of a strong protest from the County Medical Association

The College of Physicians and Surgeons has alone stood out, and delayed nominating, until it is assured by an investigation, that no injustice is to be imposed on the medical board dropped out

This, certainly, is a magnificent position for a faculty to take, not to be a party to, and not to connive at any scheme which has for its object the imposition of a serious injustice on a body of physicians who have performed their duty with fidelity and conscientious attention, over a period of several years and without a farthing of compensation

It is reported that the matter is to be made the subject of a most thorough and searching investigation, in the early autumn, in the County and State Medical Associations of New York Justitia

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A Case of Sepsis Simulating Disease of the Brain

Pawnee City, Neb, Aug 10, 1895

To the Editor —The following case being so unusual as to the symptoms, I think worthy of a place in the Journal Mrs M, was on June 14 delivered of a female child at term, Labor lasted only two hours, but placenta remained until my arrival six hours afterward Placenta was easily delivered and everything went well until June 20, when patient complained of severe occipital pain A few doses of acetanilid comp relieved the pain I saw the patient the next day, she was feeling well, the lochia and lacteal secretion normal, temperature normal but pulse 90

June 23, during my absence, Dr Wright was called and found patient had been unconscious for a short time, with involuntary discharges from the bowels At the time of his visit, consciousness had returned, but there was trembling and nervousness with some difficulty of speech Temperature 99½ degrees F I saw the patient the following morning at 9 o'clock Pulse 120 and small, temperature 98½ Conscious but can talk only in monosyllables Says "no" to nearly all questions, sighing respiration, abdomen flat no tenderness, no disturbance of vision, tongue clean June 25 had a restless night Pulse, 130, temperature 100 degrees Sighing respiration Lacteal secretion free, but she pays no attention to babe when put to the breast Answers all questions by saying, no Is evidently embarrassed when she answers wrong About 9 40 had a slight convulsion, limited to ocular muscles and the right side of face This was followed by stupor and great prostration Urine highly colored but contains no albumin Treatment consisted in the use of pot bromid and gelsemium with free stimulation The uterus was thoroughly irrigated with 5 per cent solution of creolin Some clots with much prune juice colored material was washed out

June 26, patient rested well, mind clearer, answers questions correctly but hesitatingly and in monosyllables No pain, no tenderness Abdomen flat Has not full control of bowels and bladder Temperature 99 degrees, surface cool and clammy Sighing respiration, great weakness Treatment continued as yesterday

June 27, rested better, sighing less, pulse 100, temperature 99 degrees Frequently makes pressure with both hands to forehead, but when asked if head aches answers, no Never speaks unless questioned

June 28, temperature 100 degrees, pulse 120 Rational, no pain, asks about the baby for the first time

June 29, temperature 99 degrees, pulse 108 Rational, but dull Has not full control of bowels and bladder The patient continued to improve slowly to complete recovery Iron, quinin and strychnin were resorted to after the acute symptoms were passed This was undoubtedly a case of sepsis, although the symptoms were entirely different from any heretofore encountered in an experience of eighteen years The convulsion, the aphasia, the sighing respiration, the occipital pain, the paresis with a low temperature are certainly anomalous symptoms and but for certain other contradictory evidence would lead one to suspect clot or congestion of the brain

The free secretion of mammary glands, with no stoppage of lochia, are also to be set down as unusual in a case of this kind

A B ANDERSON, M.D

Fibroid Tumors of the Uterus

CHICAGO, Aug 16, 1895

To the Editor —In his address before the Gynecologic Section of the AMERICAN MEDICAL ASSOCIATION (JOURNAL issue Aug 10, 1895), Dr Franklin Martin has grossly misrepresented my work and I beg a short space in our JOURNAL to reply

Dr Martin stated that I "still open the abdomen with the deliberate intention of removing the appendages for fibroids" On the contrary, it is my invariable custom to do hysterectomy for fibroid tumors of the uterus, and I only resort to the removal of the appendages when the condition of the patient makes it unsafe to subject her to the added risk of complete removal It is true that when I do perform the "makeshift operation of removal of the appendages" I also tie the uterine arteries as they course through the broad ligaments Dr Martin's claim that this procedure is simply his operation applied "from above," is, to say the least, surprising I employed this method before I ever heard of Dr Martin's operation (vaginal ligation of the uterine artery), but had I followed him in the matter of time, the invention of new operations would, indeed, become a matter of difficulty if two such different procedures are to be considered one and the same operation Far from lagging behind in the matter of hysterectomy, I am convinced that I was one of the first in this city to follow the great step in advance made by the New York and other gynecologists in removing the uterus in bilateral diseases of the appendages Indeed, if my memory serves me, Dr Martin was one of those to oppose this procedure, but I warned him then, that it marks a new era in gynecologic surgery, and again I admonished him that he may not be left in the ranks of the "beginner and the timid"

And lastly, Mr Editor, had Dr Franklin Martin ever enjoyed a personal knowledge of the work of the "Birmingham sage" I doubt if he would have acquired the impression that he belonged to the ranks of the "beginner and timid" A man who has done nearly forty consecutive hysterectomies for fibroids without a death could hardly be considered an amateur, neither could he reasonably be suspected of being afflicted with that disease of youth, "timidity"

Far from desiring "to shake off entirely the teaching of the Birmingham sage," I am proud that it has been my good fortune to have been a pupil of so great a master as Mr Lawson Tait Respectfully, BYRON ROBINSON

An Opinion of the Journal

QUINCY, ILL, Aug 9, 1895

To the Editor —The JOURNAL has been made so useful, its tone so excellent, and its articles so helpful to physicians and surgeons that none of them can afford to do without it In the past, many many useful methods and facts have been lost for want of a public journal belonging to everybody, to permanently record them H W K

BOOK NOTICES

Publications du Progres Medical, Paris *14 Rue des Carmes, Paris Bibliotheque d'Education Spéciale, tome IV Assistance, Traitement, et éducation des enfants, idiots et dégénéres Rapport fait au Congrès National D' Assistance Publique (Session De Lyon, Juin, 1894) Par* BOURNEVILLE *Vol in 8vo, de 246 pages avec 28 figures Prix 3 fr 50*

This is a report on assistance of idiot children and degenerates, by the learned and accomplished Bourneville We have before mentioned, in one of our book notices, the appreciative mention by Bourneville of the labors of the lamented Séguin, and the same fairness and *noblesse oblige* is seen in this report The volume begins with a historical review of assistance and treatment of idiotic and degenerate children in which our own country is given due credit for its work in this direction The second chapter discusses the assistance to this unfortunate class in the departments of France The number of admissions to each institution are given Chapter 3 describes the private establishments devoted to idiot children, epileptics and degenerates in France Chapter 5 contains a report on the assistance given this class in Europe The age and capacity of each institution is mentioned and as well their special features, Chapter 6 is devoted to the institutions of the United States The works of Séguin, Woodward, Backus, Howe, Fernald, Wilbur, Browne, Richards, Knight and Miller receive appreciative mention Chapter 7 takes up the condition of asylums for idiots in South America, and as might be anticipated there is little done Bolivia, Colombia, Chili and the Argentine Republic are without special institutions There is no report from Brazil Chapter 8 discusses in detail the motives which justify assistance treatment and education of idiots and degenerates and the form or methods of assistance

The second part of this publication contains the discussion on the report which was held by the National Congress of Public Assistance in June, 1894, under the presidency of Dr Carrier

The third part gives an elaborate summary of the existing state of medico pedagogic treatment of the idiot The illustrations show some novel gymnastic appliances

After reading this work we can with much pleasure repeat the saying of the President of the Congress, that if Séguin were the "first of the first" in this humane work, Bourneville was easily the first of the second

Twentieth Century Practice, An International Encyclopedia of Modern Medical Science By leading authorities of Europe and America Edited by Thomas L Stedman, M D, New York city In Twenty Volumes Volume III Occupation, Diseases, Drug Habits, and Poisons. New York William Wood & Company 1895

This volume of this unsurpassed series contains 1, an article on Alcoholism and Drug Habits by Norman Kerr, M D, London This article is exhaustive and occupies 137 pages of the work The author in his treatment of alcoholism, declaims against alleged specific medication, and insists that special treatment is required for nearly every case 2, a pithy article of thirty pages, by Geo F Shrady, M D, on Shock and Collapse 3, an excellent and highly entertaining article by Medical Director A L Gihon, U S N, on Sea Sickness 4 an article by Georg Von Liebig, M D, of Munich on Mountain Sickness 5, on Ostemalacia, by W T Councilman, M D, of Boston 6, Heat Stroke, by Medical Director Gihon, U S N 7, Frost-bite, by the same 8, The Diseases of Occupations, by James Hendrie Lloyd, M D, of Philadelphia This is the most elaborate section in this volume and contains 186 pages In the historical notes accompanying this paper, he begins with the classic work of Ramazzini and reviews the literature to date There is some looseness in the manner of quotation, for instance, Lloyd in quoting Patissier, says, p 512 "As an example of Patissier's method and acumen the following may serve 'Pastry cooks,' he quotes, 'are less debauched than bakers, and more gentle and sociable! He thinks he sees in pie dough a mysterious influence that renders a man more sweet and companionable than his fellow who makes bread This extravagant deduction is on a par with much that has been and still is being written on the influence of occupation on health"

Now nothing written by Patissier carries any such inference The following is an exact translation from Patissier, p 195–196

"Diseases of Pastry Cooks

"The pastry cooks are exposed to the same diseases as bakers, however, they are less intense The flour often renders their eyelids bleared, as they always carry their hands toward the fire, it sometimes follows, that on the surface of the metacarpus, squamous herpes appears, the cure of which is very difficult M Cadet-Gassicourt said that these workmen are less debauched than bakers and more mild and sociable"

This is the entire reference of Patissier to the pastry cook, and the reviewer submits that Dr Lloyd has unintentionally perhaps, misrepresented Patissier The remaining portion of this section is excellent

9, Poisoning, by Beaumont Small, M D of Ottawa 10, Poisoning from Lead, Arsenic, Zinc, Copper, Mercury, Silver, and Phosphorus, by James Stewart, M D of Montreal

As a whole, the volume is up to the high standard of its predecessors

Skiascopy and its Practical Application to the Study of Refraction By Edward Jackson, A M, M D, Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc, etc

The author of this little book belongs to those who from the beginning have recognized the great practical value of the shadow test in the examination of refraction He has given the subject special attention, and is particularly well qualified to write on it His book, therefore, bears the stamp of personal experience and original observation, and can not be too highly recommended to every oculist and physician desirous of becoming thoroughly familiar with the theory and practice of skiascopic examination

Syphilis in the Innocent, Clinically and Historically Considered, with a Plan for the Legal Control of the Disease By L Duncan Bulkley, A M, M D 8vo, cl, pp 398 New York Bailey & Fairchild

This work is the result of ten years' work by the author, and is an extremely valuable contribution to the study of syphilis The occurrence of the disease among the innocent is so frequent that the wonder is, so small a part of syphilography has been devoted to this branch of the subject, and the profession generally has been placed under obligation to Dr Bulkley

Over one hundred categories of transmission of the disease have been given There are very full tables illustrating the proportion of genital to extra-genital chancres, epidemics of syphilis which have occurred from 1577 to the present time (of which there are over one hundred) From page 241 to the end of the work, the volume is entirely devoted to the analytical bibliography of syphilis insontium

The author in his plea for the legal control of syphilis says, p, 205

"The time has certainly come, when the dangers of syphilis, and especially the dangers to innocent persons, should be fully recognized It is too late in the history of science and of humanity to stigmatize the disease as 'venereal,' and on that account to withhold scientific protection from thousands of innocent sufferers Among babies, nursing women, persons infected in dental or surgical operations, and in dozens of other manners, syphilis can no more be described as a 'venereal' affection than any other contagious disease The time has come to place it under the control of the proper health officers, and make it quite *as criminal to transmit syphilis willingly* as it is to communicate smallpox, scarlatina or diphtheria"

As a reference book it will be found the most complete of any on this subject

Contribution à l'Étude de L'Atrophie musculaire progressive type Duchenne-Aran Par le Dr J B Charcot *Volume in 8vo, de 176 pages, avec 6 figures et 4 planches hors texte Prix 5 fr*

This work, which is dedicated by the son to Charcot, *père*, does not profess to be a monograph on Duchenne-Aran muscular atrophy, but is intended to clear up some points hitherto doubtful or obscure, from a clinical or anatomic point of view The author says

"This disease was first described by Duchenne (of Boulogne) and Aran as follows 'An atrophy which develops in the adult age, comes on insidiously, and which begins in the small muscles of the hands, and slowly and progressively invades the periphery The muscles of the arms, the trunk, and finally the lower extremities become involved Only rarely do the muscles of the tongue, pharynx and larynx become involved'"

The author, after an exhaustive historical account of the affection, gives illustrations showing microscopic appearances of sections, and furnishes details of many original experiments It is apparent that the son possesses much of the keenness of observation of the distinguished father

Exercise and Food for Pulmonary Invalids By Charles Denison, A M, M D Pp 71, cl Denver The Chain & Hardy Company 1895

This little book contains an excellent system of rules for the guidance of the consumptive in the selection of articles of diet, and the performance of suitable exercise Few can speak with more authority on this subject than Dr Denison, and none with more practical common sense The book is well written and deserves a wide circulation

The Retrospect of Medicine A half yearly journal containing a retrospective view of every discovery and practical improvement in the medical sciences Edited by James Braithwaite, M D, London, etc, etc Volume III Cl, pp 411 January to June, 1895 London Simpkin, Marshall, Hamilton, Kent & Co Limited

This well known volume continues to be issued, although the limited scope of the work prevents the editor from [illegible] more than a very scanty portion of the current literature

PUBLIC HEALTH

Typhoid Fever at Stamford, Conn —Late reports from Stamford show that three hundred and thirty cases of fever have been reported, and twenty cases are under treatment in hospital There are a few secondary cases There are thirty trained nurses employed, under the relief fund, for families not able to engage them The fund collected for the relief of the poor is $2 000 Dr Edward I Meeks was taken to the Presbyterian Hospital New York, he is believed to have contracted the disease in the care of his own child There are suspicions on the part of many of the residents that the eating of raw oysters has had its share in the development of the scourge The health authorities do not vary from their original ground that the epidemic is one of "milk typhoid'

Alleged "Impossible" Death Rates—Dr I W Reilly, Assistant Health Commissioner of Chicago, recently quoted Deputy Surgeon General John S Billings, whom he styles the highest authority on vital statistics in this country, to the effect that a death rate of less than 18 in the thousand was incredible for a city so large as Chicago claims to be The deaths reported in that city for 1894 were 23,802, the claimed population—that determined by the official census of April, last year—was 1 567,727 and the death rate on this basis was consequently, 15 21 per 1 000 But at the minimum rate fixed by Dr Billings—18 per 1 000—the population must be only about 1,327 000 This is by no means palatable to the civic pride of the Western metropolis, and a movement is on foot to secure an "authoritative" census, superintended by the Census Officer of the Department of the Interior Meanwhile, Chicago should take what comfort may be got out of the fact that the Registrar-General's returns for the city of London recently showed a death rate for one week of only 15 5 per 1 000 in that city

Sanitation of Flooded Regions — A disaster somewhat similar to that at Johnstown, Pa, occurred this spring at Bouzy in the Department of Vosges, France A dam of masonry, 500 meters long, 22 high and 20 wide forming a reservoir containing 7 000,000 cubic meters of water, suddenly gave way and flooded the valley of the Avière for a distance of 20 kilometers, overturning houses, uprooting trees, and carrying away the inhabitants and domestic animals When the waters subsided there was left on the land, beside ooze charged with organic matter, *debris* of all sorts, cadavers, and masses of slime and vegetable detritus These deposits rapidly gave off disagreeable odors, and the survivors feared an epidemic The General Hygienic Council of the Department, acting under the supervision of the French Consulting Committee on Hygiene, took measures to prevent this The cadavers of animals were buried in deep trenches after being covered with quicklime, *debris* of all sorts was collected in heaps, sprinkled with sulphur and buried The trees clogging up the river bed were removed and the stagnant water led off into trenches The wells were condemned for the time being Dwelling in the inundated houses, filled with slime, was forbidden The walls were scraped, washed and calcimined, the floors washed and the furniture and hangings disinfected

Spread of Cholera—Recent cable advices indicate that from very small beginnings in the Russian province of Volhynia, cholera has suddenly made an expanding break in several directions, notably to the south and west Various dispatches from Cracow Lemberg and other points show that it is spreading rapidly in Austrian Poland Still more circumstantial stories come from southern Russia, where the epidemic has reached the vicinity of Kief, and even, it is rumored, in the city itself As usual, there is much activity in the line of quarantine restrictions, and it is probable that this extension will renew interest in the recent strictures of Inspector-General Proust of the French Sanitary Service on the English indifference to quarantine *per se* Dr Proust has declared that the refusal of Great Britain to apply the decisions of the International Conference is absolutely criminal, and that if Europe is invaded with cholera this summer, Great Britain will be to blame for it Dr C W Chancellor, U S Consul at Havre, says, however, that the attitude of Great Britain in ignoring quarantine and relying mainly on sanitation to restrict cholera is having its effect on international cholera policy, and again points out, as the late Dr Rauch was wont to do, that 'cholera quarantine, if ever it could be satisfactorily carried out, would be of no use excepting with regard to the one disease—cholera Sanitation, on the other hand, even if primarily attended to for the special prevention of cholera, is, in its measure, useful in preventing other infectious diseases conveyable by similar means, such as typhoid fever, yellow fever, etc, and is useful also in raising the general average of health in every community "[1] This is the lesson of the situation for the United States If cholera should spread throughout Europe this year we may not be able to shut it out from our shores by quarantine, but we can and should make our environment so wholesome and cleanly as that it shall be fatal to cholera as well as to all other of the filth diseases

Never Again a Cholera Panic—A newspaper interview of some of the New York health officers, regarding the delayed approach of cholera to these shores this year, has excited much interest Hopeful and optimistic views prevail Among others, Dr Roger S Tracy of the City Department was interviewed He gave it as his opinion that there will never again be a cholera scare in New York like that of 1892, and that there is safety for that city so long as sanitary laws are well enforced, and wholesome water is abundantly supplied Even if a few infected immigrants were to reach quarantine, there would be hardly any danger of the disease becoming epidemic, for the means of stamping it out are at the command of the governing powers The health authorities of Germany, France and England are now confident of their ability to deal with cholera promptly and successfully The Germans have this year had experiences even more satisfactory than those of last year, and have been able to guard their country by methods as scientific as they are easily applied Dr Tracy, in discussing the subject, applies to it the germ theory of disease with that fullness of confidence which is derived from long familiarity with it "No cholera scare hereafter," he says There can be merely guesses as to the extent to which the disease prevails in China In the dispatches there are occasional references to its existence in the Liao-Tong peninsula, and in the kingdom of Corea, and there is every reason to believe that it has been very destructive in these regions From the trustworthy statistics that are kept by the Japanese authorities, it is learned that up to the close of July there had been 9,500 cases of the disease in Japan, more than one half of which had proved fatal This fatality may be regarded as part of the price paid by Japan for her victory over the Chinese In some other countries beside those here mentioned, including Mexico and Cuba, there had been cases of cholera during the year, but it has not been epidemic in any of them It has been estimated by good authorities that the average yearly number of deaths from cholera, the world over, is close upon a quarter of a million It is now known that in Russia alone last year there were nearly 100,000 cases of the disease about 45 per cent of which proved fatal, but the ravages of the disease among the Russians are light as compared with the losses among Asiatics

Health Reports—The following health reports have been received by the Supervising Surgeon-General, Marine-Hospital Service

SMALLPOX—UNITED STATES

Michigan Battle Creek and Detroit, July 26 to August 3, reported existing
Tennessee Memphis, August 3 to 10, 1 case
Texas Eagle Pass, July 29 to August 9, 115 cases, 6 deaths

SMALLPOX—FOREIGN

Buda-Pesth July 16 to 23, 2 cases
Cairo July 2 to 8, 3 deaths
London July 20 to 27, 1 death
Madrid July 15 to 22, 4 deaths
Moscow July 6 to 13, 1 case
Mexico Nogales, July 26 to August 3, 1 death

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[1] The Sanitarian August, 1895

Washington Notes.

HEALTH OF THE DISTRICT—The death rate continues to fall According to the reports received at the Health Department during the last week there were 103 deaths, and the annual rate was 19 79 as compared with a rate of 20 06 for the week previous So far as the range of diseases is concerned, the week's health history indicates very slight variation from the several immediately preceding reports None of the dangerous contagious diseases present a phase causing anxiety to the medical profession The four deaths from typhoid fever reported in the former week were followed by three more fatal cases last week *There were but twenty-eight* deaths from this malady in the first six months of this calendar year, while since the first of last month twelve deaths therefrom have been reported In other respects the condition of the public health is favorable, infant mortality is on the decline, and the rate of mortality is 3 per 1,000 inhabitants below the normal

DISPENSING MEDICINE TO THE POOR—The Health Officer has decided to abolish the old plan of having prescriptions for the poor filled at the drug stores The new system provides that all standard medicines be purchased in tablet form direct from the pharmacists, to be kept in stock and supplied to physicians in pocket cases as needed In *treating* a case the physician is not to write a prescription and send to the druggist for it to be filled, but will deliver the medicines at once, thus saving much time It is not intended to have this new system superseded by the old one entirely at present, but it is to be tried to determine its utility and saving of money

PHYSICIANS TO THE POOR MUST PASS MEDICAL EXAMINATION Directly in line with their intention to apply civil service to the District government as far as possible, the Commissioners to-day approved a recommendation of the Health Officer, which takes in the physicans to the poor, and compels applicants for such positions to pass a competitive examination The Health Officer's recommendation, which has been approved by the Commissioners and issued to-day as an order, says "That the board to examine practitioners of regular medicine, seeking appointment as physicians to the poor be composed of the attending physician to the Washington Asylum, the medical sanitary inspector of the Health Department, one member of the Board of Pharmacy and one member of the Board of Police Surgeons The questions should be prepared and answers examined and marked by this board The examination itself should be conducted by clerks from the Health Department Candidates passing successfully the written examination should be required, as a practical test of their ability, to examine and to diagnose and outline proposed treatment for one or more patients at some public hospital or dispensary

THE DOCTORS FOR SENATOR GORMAN—The medical profession is watching with great interest the political fight of Senator Gorman in Maryland He is sure to be successful and the doctors are with him Senator Gorman has always been the friend of the medical profession and enthusiastic in all important medical and sanitary questions As a member of the Appropriations Committee of the Senate, his good offices have always been exerted in the direction of the most liberal expenditures for the extension of the influence of the Marine-Hospital Service, and he has always appreciated the importance of ample appropriations to guard against the inroads of yellow fever and for the extension of quarantine regulations To his effort was due the passage of the Congressional appropriation bill which, at the last *moment*, made the First Pan-American Medical Congress a grand success Apropos of the success of his exertions, was the brilliant reception to the delegates to the Congress, by the Maryland profession, at Baltimore, on the occasion of their visit to that city

SENATOR GREY AND A NATIONAL BUREAU OF HEALTH—Another matter of considerable interest to the medical profession, is the gossip which connects the name of Senator Grey, of Delaware, with the next Democratic nomination to the Presidency It is now well known, as a fact already communicated to the nearest friends of the President, that the latter *does not expect, and in fact will not accept a re*nomination for a third term It is also more or less certain that the friends of the President will control the action of the *next* Democratic National Convention This being the case, it may be possible for these Cleveland Democrats, as they are known, to virtually *name who shall* be the Presidential nominee If it shall be impossible to nominate either Secretary Carlisle or ex Secretary Whitney, *and the* latter says he will not accept the nomination, it is known that the President would be glad *to see* Senator Grey receive *the honor* Mr *Grey has* always been a steadfast friend of the administration, and as far as the President can aid him, his ambitions will be advanced *in* the convention This being the case, it is interesting to note that *Senator* Grey has been one of the few *national* legislators who has always been favorable to the creation of a National Bureau of Health *A bill looking* to the formation of such a bureau was introduced *in the* last Congress by Senator Grey and was advocated by him, although in the press of *other important* matters it did not receive *the attention* it deserved Should he be nominated and eventually elected, the medical *profession* would have an enthusiastic friend in the White House, and the creation of a Bureau of Health with a possible cabinet *officer* at its head, would be a possibility

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THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from August 3 1895 to August 9 1895

First Lieut CHARLES F KIEFFER, Asst Surgeon U S A, is granted leave of absence for two months

Major EZRA WOODRUFF, Surgeon (Ft Keogh, Mont), is granted leave of absence for one month

First Lieut WILLIAM F LIPPITT Jr, Asst Surgeon (Ft Leavenworth, Kan), is granted leave of absence for two months

A board of officers, to consist of Col DALLAS BACHE, Asst Surgeon General, Major HENRY MCELDERRY, Surgeon Major JOSEPH K CORSON, Surgeon is appointed to meet at Ft Robinson, Neb, on Friday, Sept 6, 1895, for the examination of Capt LOUIS W CRAMPTON, Asst Surgeon with a view to determining his physical fitness for promotion

A board of officers, to consist of Major PHILIP F HARVEY, Surgeon Major GEORGE H TORNEY, Surgeon and Capt CHARLES F MASON, Asst Surgeon, is appointed to meet at West Point, N Y, Aug 15 1895, or as soon thereafter as practicable for the physical examination of the cadets of the first and third classes the cadets of the second class on their return from furlough and such other cadets of the U S Military Academy and candidates for admission thereto, as may be ordered before it

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending August 10 1895

Surgeon C G HERNDON, *detached from* Bureau of Medicine and Surgery, to duty on the "Lancaster"

P A Surgeon F C BRATHWAITE, detached from naval hospital, Norfolk, Va, to duty on the 'Lancaster"

P A Surgeon E R STITT detached *from* special duty, and ordered to the "New York"

P A *Surgeon* J F URIC, detached from the "New York," and granted two months' leave

P A Surgeon I W KITE, detached from the monitors, to duty on the Franklin"

P A Surgeon L L YOUNG detached from the "Franklin,' to duty at naval hospital *Norfolk*, Va

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LETTERS RECEIVED

Alta Pharmacal Co, New York, N Y, Anderson, Willis S, Detroit,
Mich
Bernd, Henry & Co, St Louis, Mo Braymer O W, Camden, N J,
Bodine, J M, Louisville Ky Blakiston, P, Son & Co Philadelphia,
Pa Barnett, J T, Hardinsburg, Ind
Coholan M J, New Britain Conn Cone Andrew New York, N Y
Davies, W H, Maquoketa, Iowa Deane W J, Buffalo, N Y
Ettinger, C S (3) New York, N Y
Fuller, Geo W, Lawrence, Mass
Gibbs, A E, Chicago Ill Gibbons, H Jr, San Francisco, Cal, Globe
Mfg Co, Battle Creek, Mich
Hummel, A L, (2) Philadelphia, Pa, Hansen Harold Co, New York
N Y *Henrotin*, F Chicago, Ill
Imperial Granum Co, New Haven Conn
Kern, W B Hastings, Neb Kittredge Company, New York, N Y
Lord & *Thomas*, Chicago, Ill Lyon S B, Chicago, Ill, Loeb, Hanau
W St Louis, Mo Lillard, Benj, New York, N Y
Magruder, G L, Washington, D C, Medlin, P O, St. Louis, Mo, Mar
tin Jeffrey, Montrose, S D
North L G, Tecumseh, Mich
Parmele, Chas Roome, New York N Y, Parke, Davis & Co, Detroit,
Mich, Publishers' Collection Agency, St Paul, Minn, Polk, R L &
Co Detroit, Mich, *Pollock* R M, *Princeton*, Ill
Renz & Henry Pharmacal Co, Louisville, Ky, Roedel, H H, Lebanon,
Pa
Thompson Laboratory Co, Washington, D C, Tibbes, L Rockford,
Ill
Wishard, W N, *Indianapolis*, Ind Washburn, A A, Clinton, Ind,
Woodruff, L, Alton, Ohio, Watkins, W W, Moscow, Idaho

The Journal of the
American Medical Association

Vol. XXV CHICAGO, AUGUST 24, 1895 No. 8

ORIGINAL ARTICLES

VAGINAL HYSTERECTOMY FOR PELVIC SUPPURATION

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

BY EDGAR GARCEAU, M.D.
BOSTON, MASS.

In an old edition of Thomas' work on gynecology, the following sentence occurs: "A guarded prognosis should always be made as to the time of recovery in pelvic cellulitis, for no amount of experience can foresee the course of the affection, whether the effused *liquor sanguinis* will disappear by absorption in three weeks, whether the discharge of one abscess will end the patient's suffering, or whether a chronic induration will exist a great length of time."

The pathology of pelvic suppuration has undergone some modifications since this was written, but the prognosis, unfortunately, remains practically the same. Many women have the so called "chronic induration" which makes them confirmed invalids, and in many instances bedridden. Various operations have been devised for their relief, and various treatments. Perhaps no branch of gynecology has received more careful attention than the one we are now considering. It has been made the subject of dispute and is now far from settled. What one surgeon approves of and practices, another derides and condemns, and yet the results of each may be the same. Under these circumstances it is apparent that any new method of dealing with this class of cases must of necessity be open to severe criticism before it is generally adopted. If to this is added the fact that such a method is attended with great technical difficulties the criticism becomes the more severe, and frequently it is condemned before it is even tried. Such has been the case with vaginal hysterectomy for pelvic suppuration. Inaugurated in France by Péan in 1886, it was received with opposition by the French surgeons, and it was only after repeated proofs of the efficacy of the method that it finally gained a foothold in Paris. At the present time it is the method of choice in cases of long-standing severe inflammatory disease of the appendages. The key-note of the operation is one word—drainage—good, free, unobstructed, surgical drainage. The abdominal route has been studied to the point of exhaustion. It was entirely overlooked that the vaginal route was the logical one, and why? Simply because it had never occurred to anybody to remove the uterus which was in the way so that there should be a large, unobstructed highway down which the pus could flow. So much care has been bestowed upon the appendages that the uterus escaped its share of attention. Not only is the uterus a mechanical obstruction in pelvic suppuration, but it also may be a constant source of future danger to the woman by reason of germs which it may contain, and which may excite active inflammation at a subsequent period. Many a woman has been celiotomized over and over again for inflammatory trouble of the appendages without relief. Dr. Pryor, of New York, told me of a case in which celiotomy had been done seventeen times by various surgeons.

Jacobs' summing up of the operation and its indications is as follows: "Let us now review the indications for vaginal hysterectomy, beginning with the most difficult cases of suppuration complicated with adhesions. There is pus in the dilated tubes, in the ovaries, in the adjacent cellular tissue. The uterus is fixed, and the coils of intestines are glued together above these lesions like a solid roof. In such a case celiotomy displays the adhesions, which can not be separated without opening the bowels, with a chance that we may reach the purulent focus limited by them, open, empty and drain it, and the result may be that the woman will slowly recover, or that she will have an intractable fistula. Often we are confronted by a similar condition in which the pelvis is occupied by adhesions, in the middle of which the uterus is imprisoned, and yet without the presence of purulent foci. In such cases, owing to fear of accident, the surgeon is induced to relinquish the operation as an exploratory incision. It is, of course, always possible to finish the operation, but we have to consider the life of our patient. In just these cases vaginal hysterectomy gives results little short of marvelous—not wholly without danger, but with a security far greater than the abdominal. The collections of pus are opened into the vagina without infecting the peritoneal cavity, the adhesions are severed if possible, but should the finger encounter too great resistance they are abandoned and in a few days they will soften and become absorbed. In pelvic suppuration, and with extensive complicated adhesions, both equally formidable for the celiotomist, vaginal hysterectomy is triumphant."

Recently it has been the practice of many surgeons to remove the uterus as well as the appendages at their celiotomies, for suppurative disease, and the reason was because they found that their patients did not all get well when they removed only the appendages. Pathologic changes of the uterus certainly demand as much attention as those of the appendages. Possibly the reason they have been overlooked heretofore is the difficulty of recognizing their presence. A uterus affected with metritis, and not giving rise to any enlargement, is difficult of diagnosis. In comparatively simple cases the uterus and the appendages can be removed by the abdominal route very much more easily, and perhaps very much more quickly, than by the vaginal route, but to compensate for these advantages the degree of shock attending the vaginal operation is insignificant, added to this is the fact there is no possibility of subsequent ventral hernia which makes the life of the patient so uncomfortable In the operation of vaginal hysterectomy, the bowels are neither seen nor touched until the end Special emphasis must be made in regard to the lesser degree of shock, it is one of the strongest arguments in favor of the operation

In those cases in which pelvic suppuration is complicated with rectal, vesical or intestinal fistulæ, vaginal hysterectomy is the operation of choice A celiotomy under such circumstances is always dangerous, but by the vaginal method the peritoneum is not soiled, the discharges flow down a natural incline, and the fistula closes by itself The conditions are favorable for such a result, the healing being aided by cicatricial contraction of the pelvic contents *en masse* It is rare that a secondary operation is needed How great this cicatricial contraction is, may be inferred by the fact that in one of Ségond's cases, in which all the feces were passed *per vaginam*, complete closure of the fistula occurred spontaneously after a vaginal hysterectomy But perhaps the most wonderful result of vaginal hysterectomy is the immediate disappearance of the inflammatory masses There is no doubt whatever about this The explanation is probably to be found in the excellent drainage and in the removal of the cause There is no reason why cicatrization should be any different from that in any other part of the body An almost analogous condition is to be found in appendicitis Before operative methods were in vogue in treating this disease, its frequent recurrence was its most distressing feature, the appendix removed, the patient got well Whether or not leaving behind the appendages, or parts of them influences the final result is perhaps at present unsettled, in most instances, however, it is feasible to remove them with the uterus

And now a word in regard to the objections to the operation It has been contended that it is unsurgical, that it is brutal, that it is blind, and that it is unsafe Furthermore, it has been contended that hemorrhage is likely to occur during the operation, that the ureter and the viscera may be wounded In regard to the first of these objections, it is not necessary to say much They have been raised by men who know but little about it, and who have never seen it done properly To see a skillful surgeon perform the operation is a pleasure The steps are carefully followed, there is no embarrassment, there is no hemorrhage, and the operator sees exactly what he is doing at each step The fundamental principle of the operation is never to work at haphazard It is not a blind operation If the operator has a hemorrhage it is his fault, if he makes a misstep he is lost, and he must be a skillful man if he would recover himself The laws which govern the procedures must be as rigidly followed as an algebraic formula, otherwise there is no security against mishap Heretofore, the operation of vaginal hysterectomy has been to get the uterus out in the best and quickest way possible, each individual operator having perhaps his own method, there being no special rules laid down, beyond the incision of the vaginal attachments and the securing of the broad ligaments No one before Péan attempted to remove the uterus piecemeal, although the simplicity of the thing is evident on reflection

In regard to wounding the bladder or rectum, it may be said that this occurs not more often than in celiotomy with a skillful operator, probably not as often Ségond has done the operation 400 times and he never lost a patient from hemorrhage He opened the bladder three times, the wound was sutured at once and recovery followed Nine times the rectum was opened, three times it was accidental, six times there was a preexisting fistula, of these, two died several months after the operation from pulmonary tuberculosis, a third still had a small fistula, but it was a recent case, the other six recovered spontaneously without interference, notably the case already cited of the woman who passed all her feces *per vaginam* before the operation Ségond in all his 400 cases never clamped the ureter once He uses a special incision in incising the vagina, which gives more room and at the same time allows the ureter to slip away from the bite of the forceps The viscera can not be injured if the retractors of the Péan model are used They are long, flat blades which raise the bladder and rectum away from the cutting instruments, and if properly used are an absolute safeguard against accident

Statistics are unsatisfactory and to many they are no proof, yet in what other way shall we judge the merits of a new method? Jacobs' are among the best He has done the operation of vaginal hysterectomy for double inflammatory diseases of the appendages 166 times, he had 162 recoveries and 4 deaths—a mortality of 2 4 per cent On analysis we find that in 113 there were double purulent collections, of these 111 recovered and 2 died—a mortality of 1 8 per cent The bladder was perforated twice, the intestines once, the opening was closed and no fistula resulted In ninety-eight of these recoveries the patient was followed for a period varying from one to four years, eighty-eight were absolute cures, of the others a few suffered somewhat from vesical disturbances due to adhesions, and a few from pelvic pain, a few were not relieved at all

Péan's results are even better His first 150 cases all recovered with but one exception, she was moribund at the time of the operation But perhaps the most instructive cases are those of Landau's He always does celiotomy when there appears to be a chance of succeeding, reserving the more difficult operation of vaginal hysterectomy for those cases of suppurative disease which, if attacked by the abdominal route, would prove perilous to the patient "These are cases complicated with rupture of the tube into the bladder, rectum, or intestine, reference also is made to multiple abscesses which are intra- or extraperitoneal " He has done thirty cases of this sort without a single death It is questionable if statistics of celiotomy can compare favorably with these

In a short paper of this kind anything but a brief description of the operation is impossible In the first place, a word about clamps In a case of adherent uterus they must be used, ligatures will not do on account of the impossibility of securing them properly beyond a certain depth in the vagina But in cases in which the uterus is low down, for instance, a retroversion with disease of both ovaries requiring removal, ligature holds the preference because of the greater comfort to the patient Dr E W Cushing, of Boston, has devised a method of ligating the broad ligament which I would like to refer to here because of its neatness, and beause it avoids entirely a sloughing stump in the vagina After amputating the uterus, which in a simple case can be done in a few minutes, he draws down the broad ligament of one side into the vault of the vagina Then he passes his needle through the upper edge of the vaginal incision near the outer angle, and then encircles the uterine artery, which has been temporarily held by a clamp, he then finishes the stitch by emerging at the lower edge of the vaginal incision The uterine artery is thus firmly ligated, and at the same time the ligature closes over the stump of the broad ligament by approximating the lower and upper edges of the vaginal incisions The rest of the broad ligament is secured in the same way, on each side, by additional ligatures, two or three more being required The ovarian artery is ligated separately By this means the vault of the vagina is closed with the exception of a small hole through which a piece of iodoform gauze is thrust for drainage Necessarily this method is applicable only to those cases in which there is no pus In cases in which the uterus is adherent and high up, and in which there may be pus on one or both sides, the following method of operating is the one to be adopted

Briefly it may be described as having three stages, 1, removal of the inferior segment of the uterus, 2, removal by morcellation of the anterior wall of the uterus, and 3, eversion anteriorly of the stump

The patient lying on the back, four retractors are put in position, one on each side, and one anteriorly and posteriorly The cervix is now seized with a bullet forceps and a circular incision is made around the cervix, an additional incision is made on each side parallel to the lower border of the broad ligament, two thirds of an inch long, it gives more room and protects the ureter Directly the incision is made, the top of the anterior retractor is forced into the wound and pulled upward and backward along the cervix The sectioned tissue yields a good deal—surprisingly so in fact—and it is just this maneuver that makes the Péan instrument of so great value While the retractor is pulling back the tissue, blunt-pointed, curved scissors separate by short snips the attachments between the bladder and uterus, with each snip of the scissors the retractor takes a fresh hold, being introduced into the part just cut by the scissors The finger will sometimes help a great deal in the dissection Having separated as much as possible in front, the same should be done behind The forefinger of the left hand is now placed on the anterior surface of the cervix and glides along outward toward the base of the broad ligament, it penetrates between the anterior peritoneal fold and the ligament proper and pushes aside the ureter The same is done behind Then two fingers grasp the broad ligament and serve as guides to the first forceps, which seizes the ligament at least an inch from its lower border The ligament is then cut the whole length of the forceps close to the uterus, the same is done on the other side The cervix is now split transversely from side to side up to the point of the forceps, two flaps are thus made, an anterior and a posterior The posterior flap is now amputated and strong forceps seize the anterior flap and pull it downward, the uterus begins to roll anteriorly, thanks to the void which has been created behind by the amputation of the posterior flap At the same time fresh separation is effected between the uterus and the bladder The anterior flap is then amputated If the uterus is not very adherent it may be possible to make two more flaps which are amputated in the same way *after preliminary hemostasis of the* broad ligament But if the uterus is very adherent, the rest of the operation deals with the anterior wall of the organ Placing a bullet forceps on each side of the canal, the stump is pulled down as much as possible and separation effected between bladder and uterus After separating as much as feasible, the anterior uterine wall is morcellated in the median line in small pieces The part removed should include all the tissue down to the uterine cavity Two more bullet forceps are now inserted on the upper parts of the edges of the excavation, renewed traction is made, more denudation effected and morcellation carried higher up By repeating the process the peritoneal cavity is reached The uterus may now be hooked with the finger and everted anteriorly with ease It is a simple matter to clamp the rest of the broad ligament and to remove the organ In many instances the appendages are dragged into the vagina and are clamped separately

If, during the operation, a pus sac has been opened, the operator waits until the flow ceases, then washes out the cavity and proceeds exactly as before But if it has not been opened, it must be searched for with the finger, for, if undiscovered, it will cause further trouble

When it is possible to remove the appendages it is proper to do so, otherwise they may remain behind and in the majority of cases will cause no trouble

The dressing consists of iodoform gauze placed above the tips of the forceps and between them and the vaginal walls The forceps are removed in forty-eight hours, the gauze not until the sixth day Pain is controlled with morphin, and in three weeks the patient is up

The following case which came under my notice is typically illustrative of the sort of patient that is cured by vaginal hysterectomy

M J, 29, 2 para, was admitted to the Broca Hospital Aug 12, 1894 Ever since her last confinement, three years before, she had been suffering from inflammatory pelvic trouble which had confined her to bed most of the time The longest period of quiescence was three months, the rest of the time she had been practically bedridden from pain and prostration She had had four attacks of pelvic peritonitis which were severe, the last one eight days before entering the hospital Examination showed a uterus which was fixed, immovable, and surrounded by inflammatory adhesions, on the right, a mass the size of a good-sized fist filling the pelvis and impinging on the rectum, on the left, a smaller mass Vaginal hysterectomy was done by Pozzi's first assistant, Dr F Jayle No pus was found There was no shock to speak of, although the operation lasted over an hour In three weeks the patient was completely well, suffering no pain and walking about

I had examined the woman before the operation and easily made out the large masses, when I examined her again, three weeks after the operation, I was astounded to find that on the left side almost nothing remained, and that on the right side there was only a mass the size of a small hen's egg She told me that she was perfectly well and she looked so, and yet both ovaries and tubes remained behind

I can not refrain, in conclusion, from referring briefly to the further scope of the vaginal route in dealing with pelvic diseases In the pre antiseptic days it was the only route, and the impunity with which ovaries could be removed through an incision in Douglas' pouch served to put Battey's operation on a sound basis Not only were ovaries of normal size removed in this way, but also tumors of considerable size Dr W H Baker, of Boston, assures me that before the celiotomy period he had several times removed a dermoid or other cyst of the ovary through an incision behind the uterus Perhaps the most prominent advocate of the vaginal route in this country is Dr Polk, of New York It was a pleasure, a few weeks ago, to see him operate on a woman who had a cyst of the right ovary the size of a hen's egg Her left ovary had been removed some time previously by celiotomy and she was much averse to having her abdomen opened again Most women would be An incision was made in the posterior vaginal wall close to the uterus, and the peritoneal cavity was soon reached By means of two large retractors, made after the Ségond model, the operative field was clearly exposed and the cyst brought into view A few adhesions were readily freed with the finger and the cyst aspirated The sac was then grasped with a fenestrated forceps and removed It proved to be a cyst of only a portion of the ovary Enough of the ovary was left behind to assure the continuance of the catamenial flow A bit of gauze was thrust into the wound and the patient put to bed The operation took perhaps fifteen minutes to perform

Dr Polk told me that he treats extra uterine pregnancy in the same way He never fears hemorrhage, for it is a simple matter to clamp the ovarian artery which supplies the sac His method is to introduce his forceps along the finger as a guide, to pierce the middle of the broad ligament with one jaw of the forceps, while at the same time the forefinger seeks the top of the broad ligment and protects the intestines, preventing them from being caught in the forceps The clots may now be turned out at leisure and the cavity washed out There is no shock to speak of

In the same way, Jacobs, of Brussels, has removed a very large ovarian cyst, tapping it through the vagina and tying the pedicle, very much as in a celiotomy Fibroid tumors of the uterus can safely be removed through the vagina Here the laws of morcellation as set down by Péan must be closely followed, otherwise the operator will be disappointed in his results A skillful operator has a mortality of almost nothing It has been shown that fibroids reaching even to the umbilicus may be safely removed by this method The mortality in 400 cases of fibroids of all sizes was 1 7 per cent

From these facts it seems as though, in the near future, there must be fewer celiotomies and more vaginal work The technical difficulties encountered in performing operations through the vagina will perhaps delay the adoption of the method for a time at least, but as the experience of those who are firmly convinced that it is the route of choice in selected cases accumulates, the vaginal route will become more and more popular, and will finally be assigned the place which rightfully belongs to it

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THE TREATMENT OF THE STUMP IN OOPHORO-SALPINGOTOMY—A NEW METHOD

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, May 7-10 1895

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There are three serious objections to the method almost universally employed of treating the pedicle and stump in the operation for the removal of the Fallopian tubes and ovaries They are

1 In consequence of many adhesions of the tubes and ovaries and the inelastic condition of the broad ligament, it is not infrequently difficult, indeed, impossible to form a pedicle without producing so much tension upon the extremities of the stump as to render them prone to retract and thus loosen the ligature, or even to pull away so far as to leave unprotected a raw surface, which is liable to bleed, or if the tissues do not retract, the tension may be so great as to induce cutting of the tissues by the ligature and thereby lead to oozing or active bleeding Again, by the *en masse* ligature it is sometimes found impossible to include the Fallopian tube near the uterine cornu

2 The constriction of the nerves included in the *en masse* ligature is a source of pain, which will sometimes persist for many days or even weeks

3 An incised surface is left exposed to engender adhesions, which, if formed, result in painful action or occlusion of the bowels This is a grave objection to the method and one generally acknowledged The milder forms of adhesions are a prolific source of pain and obstinate constipation, so serious indeed, in some instances as to demand a second operation for their relief, while not infrequently the intestine will so adhere as to lead to ileus and death, if prompt interference is not instituted Three cases of obstruction of the bowels, the results of intestinal adhesions to the stump, have been reported to our local society within the last two years One of the cases occurred in my own practice, one in the practice of a colleague in which I assisted in re-opening the abdomen, to find a coil of intestine so attached to the stump as to induce an acute flexion of the intestine and complete occlusion, and the third one resulted from an operation done by a member of this Section

Various methods have been resorted to, to avert the danger of adhesions, such as the cauterization of the stump and cutting out a wedge shaped piece from the distal end of the stump and turning the raw surfaces in by sutures That cauterization is not efficient is demonstrated by the fact that in two of the cases above referred to this plan was adopted It is seldom possible to turn in raw surfaces, because the ligatures can not be applied far enough away from the tubes and ovary to leave sufficient tissue beyond the ligature to make the procedure a safe one

For two years the writer has been earnestly striving to devise some method that is safe and free from the objections of the *en masse* method He does not claim to have found a method safe and applicable to all cases in which it is necessary to remove the tubes and ovaries He does claim, however, that when the method he proposes is applicable it is far superior in its results to the older method

The method is as follows after proceeding in the operation in the usual manner until the adhesions are so far broken up as to permit of the tubes and the ovaries being brought into view, the uterus is lifted up toward the abdominal incision by the instrument presented by the finger of an assistant making pressure through the vagina A provisional ligature is thrown around the Fallopian tube, close to the uterus With scissors, the tube is cut off beyond the ligature, the severed end is seized by the thumb and finger of the left hand, gentle traction is made upon it, while with a pair of blunt-pointed scissors or knife, the tube is cut away by severing the mesosalpinx close to the tube After its removal, one or two small arteries will be found spurting They may be caught with forceps and tied with fine catgut The ovary may now be taken in hand and its attachments to the broad ligaments severed close to the organ Here, if one or two small arteries spring, they should be securely tied Now with a straight needle threaded with fine catgut begin at the outer margin of the incised surface, and with a running stitch close in all the raw surfaces, using the Lembert stitch

This completed, tunnel out the uterine end of the Fallopian tube and close in the raw surfaces by one or two stitches of fine catgut Then remove the provisional ligature Proceed upon the opposite side in a similar manner A dextrous and rapid operator will require from five to eight minutes to accomplish this work, if both sides are treated in the same manner The writer has effected it in three minutes upon one side It requires a slightly longer time than the *en masse* method, and this may be an objection to it in some rare instances, when rapidity of work is demanded on account of the critical condition of the patient

The method is not easily applied, when for any reason the uterus can not be brought up near the abdominal incision This may be the case when the operation is done during the acute stage of pelvic inflammation In these cases, I question the propriety of energetic efforts to elevate the uterus In two instances of this kind I have employed the method with satisfactory results, though through a somewhat longer incision than is necessary by the *en masse* method When there are gross adhesions of the appendages and the uterus, these should be broken up before the uterus is elevated Ordinarily no difficulty is experienced in this procedure The vagina should be disinfected before bringing the patient to the operating room As a preliminary step, the stem may be introduced into the uterus by an assistant before beginning the section, and held in a position ready for use when the adhesions have been liberated

A large sized urethral sound may be used instead of the elevator, or the finger of an assistant may elevate the uterus The elevator I show, however, is superior to these means, for the reason that it gives better command of the position of the uterus In two instances, I have employed this method without elevating the uterus In such cases more difficulty was experienced in tying the arteries and in closing in the raw surfaces For the latter purpose, short curved needles were used, carried by a needle holder, whereas when the uterus is elevated, a straight needle carried by the fingers is the preferable and the quicker course to pursue The advantages claimed for the method are, that by means of it, the pain following the operation is much less than by the old method and there are left no exposed surfaces to engender adhesions

The writer has employed it now nine times with great satisfaction in each case A brief history of four cases are given, to show that the method has a considerable range of applicability

Case 1 —Mrs A was operated upon at her home near Frankton, Ind , with the assistance of Dr Coverly, of Frankton and Dr H E Jones, of Anderson, May 22, 1893 There were found on abdominal section, a small ovarian tumor upon each side, a pyosalpinx upon the right side and a malignant disease affecting the omentum and mesenteric glands It was found impossible on account of dense adhesions to lift the tumors out of the pelvis or to discover a pedicle A circular incision was made around each tumor near the base, but only through the outer coat of the cyst wall This incised portion was pressed downward and finally the hand slipped under the tumor, when it was lifted out of the pelvis and the left one delivered without rupturing The right one was ruptured in attempting to deliver it through the abdominal incision

Two arteries spurted upon each side, and were secured with difficulty The Fallopian tube upon the right side was severed near the cornu and was removed by cutting the mesosalpinx near the tube Two small arteries were seized and tied and the raw surfaces turned in by two or three catgut sutures There was quite an amount of oozing from surfaces caused by separating adhesions upon the right side, so strips of gauze were packed into the pelvis, effectually checking the hemorrhage The malignant neoplasms could not be removed The abdomen was closed in the usual way The patient made an easy recovery from the effects of the operation In this case the method greatly simplified the operation It would, however, have been more difficult had we not employed a long incision

Case 2 —Mrs B , a colored woman, was operated upon by abdominal section at the regular Wednesday clinic Oct 17, 1894, at the Indianapolis City Hospital in the presence of the hospital staff of assistants and about one hundred and fifty students There were gross adhesions After enucleating a small intraligamentous cyst from each side and a small fibroid tumor from the uterus, one Fallopian tube was found to be distended by pus The tube was so bound down by adhesions as to make it difficult to form a pedicle, so the cornual end was tied with catgut, the tube cut off beyond the ligature, the severed end seized and the mesosalpinx severed near the tube throughout its entire length But a single artery spurted This was tied and the raw surfaces turned in as in the former case The cornual end of the tube was tunneled out and the edges turned in and sutured The patient made a good recovery

Case 3 —Mrs C , aged 32 years, was operated upon by abdominal section at my private hospital March 14, 1895, in the presence of Dr Potter and my assistants This was a case of recurrent diffuse pelvic inflammation of many years' standing The uterus was retroverted and adherent The tube and ovaries were prolapsed and adherent After separating the adhesions the uterus was elevated by an assistant making pressure from below with a finger in the vagina The appendages were examined and those upon the left side found so much diseased that their removal was deemed advisable They were extirpated with ease and expedition by the method described above The fundus was anchored to the anterior abdominal wall by two silkworm gut sutures passed through each horn of the uterus and up through the abdominal wall and fastened to a button upon the external surface of the abdominal wall The ease with which the operation was done the freedom from pain and the easy recovery of the patient were most gratifying

Case 4 —Miss D , a young woman aged 23, was operated upon at my hospital April 24 1895, in the presence of Dr Mauk, of Cambridge City, Ind , and Drs Pfaff and Ferguson, of Indianapolis The case was one of diffuse pelvic inflammation of three months' standing There were many firm adhesions The right tube and ovary were liberated and brought up with considerable difficulty But little difficulty was experienced in elevating the uterus The method as described was employed in all its details except that interrupted catgut sutures were used to close in the cut surfaces, and with the addition that the uterus was tilted to one side by making traction upon the provisional ligature This, to some extent, facilitated the work

We found it necessary to tie but two arteries and they were small ones The ease with which the complete removal of the ovary and the tube can be effected was well illustrated by this case It would have been difficult if not impossible, to have applied the *en masse* ligatures so as to have removed the whole of the ovary.

This proved to be a pus case (pyosalpinx), and the wisdom of the provisional ligature and subsequent tunneling of the cornual end of the tube was exemplified. The left Fallopian tube and ovary, though imbedded in adventitious tissue were when brought out of the incision and examined, thought not to be sufficiently diseased to demand their removal, so they were dropped back and the abdominal incision closed. The patient is making an easy recovery.

In conclusion, I wish to say, that my experience with the method in the nine cases in which it has been employed has been most gratifying. The pain experienced by the patients has been much less than it has been in other cases in which the old method has been employed. There has been no case of secondary hemorrhage or adhesion to the stump. In some instances, in which the patients are prone to hemorrhage I should be cautious in employing it, indeed, I abandoned it in one case, where much hemorrhage resulted in cutting the mesosalpinx.

If the hemorrhage does not cease after tying the arteries, a pedicle can be easily made and the whole secured by the *en masse* ligature. In one or two instances after cutting away the tube, the mesosalpinx has retracted. Some trouble was experienced in securing the arteries. This occurrence may be avoided by seizing one edge of the severed mesosalpinx with a tissue forceps. I am sure if the method yields as good results in other hands as it has in mine, the *en masse* ligature will hereafter be employed only in special cases.

THE ETIOLOGY AND TREATMENT OF INFLAMMATIONS OF THE UTERINE APPENDAGES

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY AUGUSTIN H. GOELET, M.D.
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For some years past the surgical tendency of the gynecologist has completely overshadowed the rational treatment of diseases of the uterine appendages, and may be regarded as a confession of inability to cure, for it can no more be claimed that ablation of organs so important to the female economy is a cure of the morbid process, than amputation of a limb is a cure of the injured or diseased member.

General surgery has passed this stage of wholesale sacrifice of useful members, and to-day the saving of an injured limb is more creditable to the surgeon than a skillfully performed amputation. Gynecology must soon pass this stage also, for the limit of extreme pelvic surgery has been reached and the sad plight of the woman (?) who has survived the removal of her ovaries, tubes and uterus is beginning to be realized. I venture to predict that the gynecologist who saves the greater number of tubes and ovaries within the next ten years will win greater renown than he who removes the most. Any one who has had experience with diseased appendages will admit that it is much easier to remove them than to attempt to bring about resolution of the morbid process and save them. The same is true of a badly crushed arm or leg. But which is the more creditable procedure and which would you prefer to adopt, if the patient was your own wife or daughter?

The contention is not that these inflammations of the tubes and ovaries can always be cured, but that it is frequently possible, and that unless immediate operative interference is actually demanded, the patient should be given the chance and the attempt should be made before submitting her to a radical operation. In view of the fact that treatment directed toward attaining this end does not militate against a subsequent operation for their removal, should it become necessary, but on the contrary, improves the chances of an ultimate successful result—it is a perfectly rational procedure and one which should always be adopted. Remember, that once removed they can not be replaced.

In the light of recent developments in the etiology and pathology of inflammations of the appendages, is not the removal of these organs without previous attempt at a cure or removal of the cause which may be operating to maintain such a condition, to be regarded as a serious error? It would certainly be more rational to institute measures, first, which will bring about a cure of any disease of the uterus or other pelvic organs which may be acting as a maintaining cause. It will be asserted that this is the course usually pursued and that no case is submitted to a radical operation unless it is absolutely certain that it is the proper procedure to be adopted. But is this strictly true? Is it not a fact that tubes and ovaries are being removed every day without any previous effort on the part of the operator to cure the disease or remove conditions which may be producing it? It may be true that not so many are sacrificed now as a few years ago, but they are still removed too often for disease which is amenable to patient and persistent treatment, or which may be cured by a minor surgical operation, involving no risk, such as curettage or repair of a lacerated cervix.

My purpose, in presenting this subject for your consideration, is to show how many of these conditions are curable where a radical operation is usually believed to be necessary, and I will relate briefly the histories of some cases, which are conspicuous examples, substantiating this statement.

It will not be possible, in a brief paper like this, to consider these conditions in other than a general way, for to go into the details of the different stages of the morbid process would consume too much time.

Clinically, inflammations of the uterine appendages may be divided into salpingitis and ovaritis, for though they are often so intimately associated as to render their separation impossible, yet it is sometimes true that either the one or the other (tube or ovary) is more distinctly involved and demands separate consideration. It is quite impossible to institute rational and successful treatment without first ascertaining both the direct and indirect cause of the morbid process. Usually, the cause of salpingitis is readily ascertainable, but that of ovaritis is often remote and obscure. It is evident, therefore, that it will be more satisfactory to consider them separately in outlining the plan of procedure to be adopted.

Salpingitis will be divided into catarrhal, and that due to septic infection from the extension of a similar inflammation from the endometrium. Catarrhal salpingitis may occur coincidently with a catarrhal endometritis without previous existence of the latter, and occurs as a result of imprudence which precipitates suddenly and frequently a marked pelvic congestion or engorgement In this respect it differs from inflammation due to septic infection as well as in another very important particular, viz, that it is less virulent and it is consequently more readily controlled I believe that it seldom occurs as an acute inflammation but that in the beginning it rather partakes of the nature of the, so called, subacute process which is simply a hyperemia attended with hypersecretion from the mucous membrane As a result of continued and repeatedly provoked hyperemia, a chronic inflammation of the mucous membrane is developed which may eventually involve the deeper tissues and produce structural changes It is possible that the secretions may accumulate in the tube and produce distension, since the caliber of the uterine end of the tube becomes obstructed in consequence of edema and infiltration of the mucous membrane The abdominal ostium must also become obstructed to permit distension and this occurs no doubt in a similar manner Such tubes are frequently mistaken for pyosalpinx or hydrosalpinx and removed I am satisfied that hydrosalpinx when formed on one side only, with the other tube in good condition and functionating, is frequently produced in this manner and is rather the result of chronic catarrhal inflammation than septic infection from the endometrium Acute exacerbations may occur when the tube is the seat of chronic catarrhal inflammation which may readily be mistaken for a primary acute salpingitis The process is rather a perisalpingitis due to an extension of the inflammation from the interior of the tube Such cases may present to a most rigid examination all the appearances of inflammation due to septic infection, and the appendages are often found to be surrounded by exudation if the inflammatory process has been going on for some time This is the difference, however,—it yields more readily to treatment This may be due to the fact that the structural lesions are not so extensive

As a proof of what has been said, we often find the appendages the seat of chronic inflammation and surrounded by more or less exudation in cases where there has been no chance for infection and there is no history of an acute stage having preceded it

On the other hand, inflammation of the tubes, due to septic infection will be ushered in by an acute inflammatory process of marked severity which must occur sooner or later after infection of the endometrium and as a result deep structural lesions occur early When they are extensive and especially when due to gonorrheal infection, there is little chance of producing resolution by any method of treatment The inflammatory process, which first involves the mucous membrane by extension from the endometrium, rapidly spreads to the muscular structure of the tube walls, and even to the peritoneal covering The abdominal ostium is obliterated early and drainage into the uterus is prevented by infiltration of both the mucous membrane of the tube and the uterus, and also of the muscular structure This obstruction may or may not be permanent, this depending upon the extent of the lesions produced Some authorities contend that the uterine end of the tube is seldom occluded, but that the obstruction due to infiltration may be overcome and the tube drained into the uterus I believe that when the inflammation has subsided in the tube and it has become distended, the obstruction at the uterine end is often maintained by hypertrophy of the endometrium, surrounding the orifices of the tubes upon its surface, and that it may be overcome by removing this condition When this is possible and drainage can be maintained a cure is possible, though the function of the tube may not be restored If, however, actual occlusion of the uterine end of the tube has occurred, drainage can not be established and a radical operation is imperative if there is much distension Cases where the tube is bent upon itself, prolapsed and is adherent, come under this head

Ovaritis exists as an acute or chronic inflammation and is frequently a sequence of salpingitis, though it sometimes occurs independently of this condition The lymphatics may convey infection directly from the uterus to the ovaries and thus septic inflammation may result there independently and without involvement of the tubes, though this is rare

The acute form may occur coincidently with salpingitis, being produced by the same causes, but a condition of hyperemia and hyperasthenia which is sometimes regarded as an inflammation, frequently results from imprudences during menstruation, too frequent and excessive coition, ungratified sexual excitement and constipation

Structural changes, characteristic of chronic inflammation, may result from the acute stage, but chronic ovaritis does not often follow the acute process Most frequently it begins insidiously and develops gradually from this condition of hyperemia Probably one of the most frequent causes of chronic ovaritis is laceration of the cervix during parturition, with consequent infection through the medium of the lymphatics which are well known carriers of infection It is a well established fact to my mind that this lesion, if unrepaired, is a constant source of irritation which reflects upon the ovaries and maintains in these organs a state of hyperemia and hyperesthesia Further on, I will relate several instances of this kind, where a cure was effected by repair of the cervix

Chronic ovaritis may exist as a condition of atrophy, hyperplasia or cystic degeneration, but the term is most frequently applied to a condition of passive hyperemia which, if unrelieved, may result in hyperplasia This may be produced by the causes mentioned above or by any other source of irritation of the uterus, such as endometritis or growths within the uterus, especially if located in the cervical canal, such as small polypi Fissures of the anus, ulceration of the rectum and chronic proctitis are also frequent causes of ovarian irritation and hyperemia which are often overlooked

Any treatment, which has for its aim the establishment of drainage of diseased tubes into the uterus, the removal of the hyperemia and infiltration and the absorption of the surrounding exudation may be regarded as a perfectly rational procedure, and one which should be adopted, when possible, in preference to their removal If this object can be accomplished (and it is frequently possible), a cure may be effected and the woman will be restored to a life of usefulness and happiness

If this much will be admitted, the principal thing to be considered is the best manner of accomplishing this result

When salpingitis is found to be associated with a severe type of chronic endometritis, with an hypertrophied or granular condition of the mucous membrane, the first step in the treatment should be dilatation of the canal, thorough curettage of the cavity of both the body and the cervix, followed by packing with iodoform gauze to secure thorough depletion and drainage Especial care must be observed in removing the hypertrophied membrane from the vicinity of the internal os and both cornua This latter is best secured by using a small size curette which will reach up in the angle at the entrance of the tube and should be employed after the cavity has been gone over by an instrument of larger size The removal of these granulations or hypertrophied elevations of the mucous membrane about their orifices facilitates drainage from the tubes in the same manner as removing the superfluous granulations about the entrance of a fistulous canal . They obstruct drainage in the same manner A sharp curette may be required for removing the hypertrophied tissue at the internal os The extent of dilatation required is not nearly as great as is usually considered necessary A moderate dilatation under anesthesia gradually accomplished by means of the steel dilator, sufficient for the easy introduction of the curette, is all that is necessary The gauze packing, if carefully done, will effect still further relaxation Divulsion is unnecessary and should never be done

The technique of the operation is important and is as follows the vagina and vulva are first rendered aseptic, then after sufficient dilatation has been accomplished the double current irrigator should be introduced and the cavity thoroughly cleansed with either a solution of bichlorid (1 to 4000), or what I often prefer, a 1 per cent solution of lysol (hot) Then the cavity is curetted and again irrigated with the same solution until all oozing has ceased The cervix is now fixed by a double tenaculum and a strip of 20 per cent iodoform gauze, the absolute sterility of which has been previously assured, is introduced by means of a long applicator forceps, here shown, and carried well up into both cornua, the cavity filled and the cervical canal also The gauze is cut into strips one yard long, and three-fourths to one inch wide Usually, the whole strip can be packed into a uterus of moderate size The vagina is then filled with wider strips of the same gauze and an aseptic pad is placed against the vulva The patient is to be confined to bed while the gauze remains in the uterus Usually, a week is sufficient for this part of the treatment Instead of permitting the gauze to remain undisturbed in the uterus for several days, which is the practice of some gynecologists, I deem it necessary to remove it every twenty-four hours, at least, for it ceases to drain when the gauze in the vagina becomes saturated Upon removing it, the cavity of the uterus should always be irrigated with a hot 1 per cent lysol solution and the gauze is re-applied as described above

Let it be understood, both by the physician and the patient, that the operation and the subsequent gauze packing is only to be regarded as a preliminary step in the treatment, and that it is necessary to maintain free drainage from the uterine cavity and tubes, remove all sources of irritation and institute measures which will promote absorption of surrounding exudates and relieve the engorgement of the pelvic vessels To accomplish the first end, a patulous condition of the cervical canal must be preserved and the uterine cavity must be kept free from all *débris*, such as small clots and particles of mucus, which, if retained, would be a source of irritation This is accomplished by the occasional introduction of a small (clinical) irrigator and washing out with a 1 per cent solution of lysol, or Thiersch's solutions may be used if an astringent action is desired I never use anything else and never employ iodin or carbolic acid in these cases If the canal becomes too much contracted to permit the easy introduction of the irrigator, it is connected with the negative pole of the galvanic current as an electrode and about 10 milliampères turned on This will facilitate its introduction and if the current is allowed to remain on during the irrigation it exerts a stimulating action upon the endometrium through the medium of the liquid projected through the irrigator

The second object (the absorption of exudates and the restoration of the normal circulation of the pelvis) is accomplished by the persistent application of the faradic current of high tension, made sufficiently stimulating to suit individual cases I know of no better way of accomplishing this end and nothing which I have employed has given such prompt and satisfactory results It serves a double purpose in these cases, since it not only quickens the capillary circulation and hastens absorption, but by stimulating contraction of the tube walls and the uterus, it favors evacuation of the tubes into the uterus and empties the uterus as well

In some of these cases it is better to institute some preparatory treatment before the operation which will relieve the extreme sensitiveness, lessen the surrounding congestion and remove the infiltration and exudation, and for this purpose I employ the fine wire faradic current to great advantage At the same time, the bowels should be kept relaxed and the patient's diet and digestive apparatus must be regulated

Under this plan of treatment it has frequently happened that tubes which were considerably distended have been evacuated while the gauze was in the uterus and they have not refilled In other cases evacuation does not occur until after the packing has been discontinued and the stimulation of the faradic current is employed The probable explanation is, that in some instances, the barrier to drainage from the tubes is infiltration of the tube walls, or the pressure of surrounding exudation, which is removed by this latter method of treatment Faradic stimulation here promotes the evacuation of the tube into the uterus, by exciting contraction of the tube walls, which is vermicular and in the direction of the uterus

When salpingitis is associated with a simple catarrhal endometritis, curettage is not needed The occasional introduction of a conical dilating electrode connected with the negative pole of the galvanic current (10 to 15 m) to render the canal free, and favor drainage from the uterus, together with frequent applications of the fine wire faradic current to relieve engorgement of the pelvic vessels and promote the removal of infiltration of the mucous membrane will give satisfactory results in the majority of cases When the secretion is abundant and does

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Note —In a paper which I read recently before the New York Academy of Medicine upon the " Physiologic Effect of Periodic Induced Currents," the exact manner of their action in bringing about these results was clearly explained —See American Medico Surgical Bulletin, April 15 not drain away readily, it will be better to irrigate the cavity twice a week with a warm lysol solution by means of the small clinical irrigator, followed each time by faradic stimulation with the fine wire current This may done at the office and after a short rest the patient may be permitted to return home It is astonishing what immediate and lasting relief this treatment affords the patient If she comes into the office with a dragging sensation in the pelvis and a tender painful condition about the uterus she is immediately relieved by washing out the uterus, because the source of the irritation, retained secretions within the uterus, has been removed Frequently the symptoms do not return for several days

Some care is necessary, however, in carrying out this treatment, to avoid provoking undue irritation in introducing the irrigator and washing out the uterus No force should be employed, but first ascertaining the direction of the canal, the instrument is inserted as far as it will enter readily which is usually up to the internal os, then the current is turned on and it is allowed to slip in under very gentle pressure The irrigation should be continued until it is absolutely certain that everything has been washed away and the cavity is clean Then the inflow of the solution must be stopped and that remaining in the cavity of the uterus must be permitted to drain away through the return flow tube of the irrigator before it is removed The cavity is thus left perfectly clean and empty

The treatment of ovaritis consists in removing the source of irritation or the cause when ascertainable, as far as possible When it is associated with and dependent upon an endometritis or salpingitis, these should be treated in the manner described above When dependent upon an injured or diseased cervix it must be repaired or removed If it is found that the rectum is the seat of disease, or there is fissure of the anus, it must be cured before we can expect to relieve the ovarian irritation

Relief of the symptoms may be afforded by treatment directed to the ovary alone, but it will only be temporary and not permanent until the cause of the irritation is removed

I recall many instances where patients suffering with ovaritis have been brought to me by their physicians who had employed electricity for months without permanent benefit, and it has been found that the cause of the condition has been disregarded and overlooked

In employing this agent in the treatment of ovaritis, the preference is to be given to faradization in the majority of cases, because it affords quicker relief of the pain and the result is more satisfactory, especially if the condition is one of hyperemia with infiltration or exudation In conditions of hyperplasia, galvanism or a combination of the faradic and galvanic currents is more appropriate and gives better results In employing the galvanic current for these conditions a moderate strength continued for a longer time produces the best effect

The importance of discriminating in the choice of the current to be employed in certain conditions of ovarian inflammation, as well as the necessity of removing the cause of the irritation, is well illustrated in the following case

Case 1 —The patient, a young girl of 18, had been for over a year under the care of a prominent gynecologist in New York for ovaritis During this time he had persistently employed the galvanic current, and failing to derive any benefit therefrom he suggested removal of the ovary as the only possible means of relief She was then brought to me and began to show immediate improvement when the fine wire faradic current was substituted But no permanent benefit was obtained until the rectum and anal orifices were restored to a normal condition The cause of the ovarian irritation and hyperemia proved to be an inflamed rectum, with fissure of the anus, associated with obstinate constipation Two years have now elapsed, there has been no return of the trouble and the patient is in excellent health

The digestive apparatus is often at fault in these cases and constipation is frequent and annoying There is no doubt that this is a prolific cause of ovarian irritation and inflammation which is often overlooked or disregarded

Malnutrition, which may be attributed often to disorder of the digestive apparatus, brought on by improper food, is also indirectly a cause of ovaritis and is to be counteracted by careful attention to the diet and the state of the excretory organs

A congestion of the ovary may be maintained by interference with its circulation, due to the pressure of an exudation in the broad ligament, which may be removed by stimulating absorption with the fine wire faradic current

A condition of atrophy of the ovary is frequently produced by the pressure of exudation which interferes with its circulation and function, and is often associated with either absent or very scanty and imperfect menstruation It may be cured if the exudation can be removed and the menstruation restored to normal activity, if it has not existed for too long a time

Cystic degeneration of the ovaries is very rarely benefited by any form of treatment, and if the symptoms are persistent and are sufficiently annoying to warrant it they should be removed This is a condition, however, which is difficult to diagnose without inspection

If a septic inflammation of the ovary has progressed to that point where an abscess has developed, its prompt removal is the only course to be adopted, and neglect to do so is as unwarranted as a hasty operation in other conditions when it is not necessary

Ungratified sexual desire has been stated as a cause of ovarian irritation and inflammation, and there is no doubt that it exists in some instances without the knowledge of the woman so afflicted A case which serves as a forcible illustration of this was related to me by a gynecologist of some prominence in New York

Case 2 —A lady of refinement and education who was left a widow after several years of married life without children, developed a most intense ovarian irritation and inflammation which gave rise to so much suffering as to make her an invalid Everything possible had been done for her by different specialists whom she had consulted but with no benefit She was advised and urged to have her ovaries removed and finally consented to the operation, if after an anticipated trip and rest abroad she was no better On the steamer going over she chanced to meet a gentleman of whom she became very much enamored They became engaged and on her return to New York she hastened to ask her physician if her condition should prevent her from marrying and if marriage would aggravate her condition and cause greater suffering He discouraged her and advised against it, believing that it would be worse for her He again urged her to have the operation performed Much to his surprise, a month or two after this he received an invitation to her wedding Meeting her there she explained that she had not taken his advice because she was so deeply in love with the gentleman that she had determined to take the chances and if she became worse, afterward, with his consent, she would have the operation performed Several months elapsed before he again saw her, during which time they were absent from the city She then told him that from the time they were married she ceased to suffer and was now perfectly restored to health, which her appearance made quite manifest, and asked him if he could in any way explain her cure He suggested the cause of her suffering which had been removed, but she disclaimed any knowledge whatever of the existence of any such cause

The following case shows that an intractable inflammation of the ovary may be overcome by restoring a normal condition of the uterus and cervix which was the cause

Case 3—Mrs B , age 35, married at 17, two children, the last 12 years old, came to my clinic in May, 1893, suffering with intense pain in the left ovarian region The left ovary was enlarged to about the size of a walnut and there was chronic metritis and endometritis with an old laceration of cervix and cystic degeneration The pain in this case was relieved temporarily by faradization, but returned with the same severity whenever treatment was discontinued The patient's general health improved greatly while under treatment, but as no permanent benefit to the ovarian condition was obtained, I feared that I would be obliged to remove the ovary Before doing so, however, I curetted the endometrium and repaired the cervix, being particular to remove all the diseased tissue possible Upon getting up after the operation she was overjoyed to find that she no longer suffered pain in the ovary and there was no return of it Within three months she became pregnant, though she had been sterile for twelve years, and subsequently was delivered at term She has suffered no inconvenience with the ovary since and it is about normal in size

The next case, one of fixed retroflexion, cervical laceration with metritis and endometritis, salpingitis and ovaritis resembling cystic degeneration, illustrates what may be accomplished by patient and persistent treatment and restoration of a normal condition of the cervix

Case 4—Mrs T , age 33, married fifteen years, mother of three children, last 7 years of age, was sent to me by her physician in Columbia, S C , October, 1893 Her ill-health dated from the birth of the last child, which was followed by pelvic peritonitis due to septic infection following labor When she first came under my care she could not walk a block without great fatigue and suffering, she was anemic and her general health was greatly impaired

Examination revealed an immovable retroflexed uterus, surrounded by exudation, both tubes and ovaries involved, a bad metritis and endometritis with bilateral laceration of the cervix and laceration of the perineum

Celiotomy had been advised, as the only possible means of relief

The treatment instituted was fine wire faradization daily, and drainage from the uterine cavity, promoted by the application of negative galvanism to the canal Later, when the uterus was rendered movable and could be replaced, a soft whalebone pessary was introduced Six weeks after beginning treatment the cervix and perineum were repaired The period occupied in the treatment was three and one-half months At this time she was able to return home and was directed to have the faradic application continued twice or three times a week She was able to walk a considerable distance without fatigue or without suffering any pain or inconvenience in the pelvic organs, and was then wearing a hard rubber pessary She continued to improve and within a year after she had entirely regained her health and strength

The next case shows how pelvic exudation may be removed by faradic stimulation unaided

Case 5—Mrs L , age 37 years, one child twelve years before and one miscarriage, six years before, came to my clinic in 1893 Menstruation consisted only of a few drops and was attended with great pain She could walk only with the greatest discomfort, the slightest jar giving her great pain Examination revealed the pelvic organs absolutely fixed by surrounding exudation The diagnosis was chronic metritis and salpingitis and ovaritis with exudation There was an old laceration of the cervix with cystic degeneration Under faradization alone, nothing else being employed, the pain was immediately relieved and within a few months the exudation had disappeared and the uterus was movable Subsequently the cervix was repaired, the diseased tissue being carefully removed The patient is now in excellent health and menstruation is free from pain and more normal in amount The uterus is freely movable Examination under anesthesia at the time of the operation showed no abnormal condition of the appendages remaining

Case No 6, illustrates the benefit to be derived from curettage and gauze packing, in securing drainage of distended tubes into the uterus

Case 6—Mrs H , age 28 years, married six years, consulted me in December, 1894 She suffered only slight dysmenorrhea until a miscarriage which occurred two years after marriage, when she began to have more or less pelvic pain and profuse leucorrhea Examination revealed an endometritis with salpingitis, left tube distended to size of the thumb with some infiltration about the tube and ovary Dilatation, curettage and gauze packing secured evacuation of the tube after the third day The subsequent treatment consisted of irrigation of the cavity twice a week Drainage was maintained and the tube did not refill Duration of treatment six weeks The cure has been complete and so far permanent

The next case, one of pyosalpinx, was drained into the uterus and cured without curettage, and pregnancy followed

Case 7—Mrs A , age 23 years, married four years, sterile, consulted me in May, 1892, for a condition which began shortly after marriage She suffered some dysmenorrhea before marriage About a year after she became very much worse and began to suffer with pelvic pain, backache and leucorrhea Her general health was greatly impaired and she was anemic Diagnosis endometritis and salpingitis, the right tube being distended to about the size of a small egg Celiotomy had been advised by specialists in Detroit and Pittsburg, but was declined The tube was so much distended and obstructed, I feared that I would also have to advise an operation, and told the patient that nothing could be promised positively from treatment, but under the negative galvanic applications to the uterine canal and fine wire faradization the tube began to drain into the uterus within two weeks and eventually emptied completely The discharge was muco-purulent in character The walls of the tube contracted and it did not refill

The duration of treatment was three months She was then so well that she went West to join her husband A year later on her return to New York, I found her pregnant She was confined in October last, the labor being normal and easy Her health has been good since

In marked contrast with the foregoing case, the next illustrates a class of cases which can not be drained, though the symptoms may be relieved by treatment, when operative interference is prohibited

Case 8—Mrs S , age 24 years, married six years, sterile, consulted me in August, 1892, for the relief of a constant dragging pain in the back over the sacrum, and pelvic pain referred more especially to the left side, associated with dysmenorrhea and at times with considerable leucorrhea These symptoms dated back several years, but had become more pronounced within the last two years Examination revealed a smooth elastic tumor, posterior to the uterus in Douglas' pouch, which proved to be an adherent hydrosalpinx The left ovary was sensitive and enlarged, the right could not be made out The patient was told that the treatment would afford only temporary relief, that an operation for the removal of the diseased tube was advisable and would eventually be necessary She objected to the operation, but asked that some treatment be instituted which would relieve the symptoms The attempt was made to drain by means of galvanic application to the uterine canal and faradic stimulation, with the result that the endometritis was overcome and the pain relieved within two months She then discontinued treatment but was advised to have the operation performed as soon as the symptoms recurred She returned after four months, stating that there had been no return of the pain, leucorrhea or dysmenorrhea, but for two weeks she had a return of the backache, and she made up her mind to undergo the operation I operated March 26, 1893 The tumor proved to be a hydrosalpinx of the right tube and the ovary of the same side was cystic The tube was bent upon itself near its attachment to the uterus, and was consequently occluded and drainage into the uterus was prevented The tube and ovary of the other side were left undisturbed The patient made a good recovery and has enjoyed excellent health since

Case 9—Mrs G, age 26 years, married seven years, consulted me in June, 1889 Examination revealed partial fixation of uterus and a mass to the left which proved to be the tube distended with pus and surrounded by exudation There was also an endometritis with considerable erosion of the cervix Celiotomy had been advised Her trouble dated from a miscarriage and an attack of pelvic inflammation one year later which confined her to bed for eight weeks The treatment instituted in this case, was drainage through the uterus, by means of negative galvanic applications to the endometrium and cervix, which acted by overcoming the endometritis and securing free drainage from the cavity, and faradization to promote absorption of the exudation and stimulate evacuation of the tubal contents The treatment extended over a period of six months but her attendance was irregular, as is the case with many of these patients when they notice improvement

The result obtained was absorption of the exudation, drainage of the tube into the uterus, disappearance of the tumor because the tube did not refill, cure of the endometritis and mobility of the uterus The patient was in good health two years afterward

The next case is one which illustrates how catarrhal salpingitis yields to this method of treatment

Case 10—Miss E, 19 years, consulted me in April 1892 About eight months previously, after exposure to cold during menstruation, she began to suffer pelvic pain, backache and bearing down with profuse leucorrhea This continued some time before she consulted a physician She improved somewhat under treatment, instituted at that time, but shortly afterward she got a wetting which precipitated an attack of acute inflammation, confining her to bed for four weeks After being about for two weeks she was again taken sick and was sent to a hospital in this city There she was treated by rest in bed, blisters to the hypogastrium and hot water vaginal douches with only slight benefit Celiotomy for the removal of the ovaries was then urged, which she refused

At the time of consulting me she was the picture of abject misery pale, anemic, haggard and was never a minute free from pain except when asleep Walking or the least exertion greatly increased her suffering Her appetite was poor and she did not sleep well I found her so exquisitely sensitive to vaginal touch that a satisfactory examination was impossible There was a profuse mucus discharge and the uterus was fixed by infiltration of the surrounding structures The diagnosis was catarrhal endometritis, salpingitis and ovaritis

The treatment instituted was fine wire vaginal bipolar faradization The first application which was continued for twenty minutes dispelled all pain and rendered her perfectly comfortable for eight hours afterward This was repeated every day After the third application she remained free from pain twenty four hours and moderate exercise caused no pain This plan of treatment was continued and supplemented later with mild negative galvanic applications to the uterine canal to facilitate drainage At the end of two months and a half she was able to resume her occupation as stenographer and typewriter Her health has been good since and there has been no recurrence of the trouble

This is another case of catarrhal salpingitis, associated with ovaritis and endometritis, which yielded to treatment after celiotomy had been advised

Case 11—Mrs E, age 21 years married five years, was referred to me by Dr R W Taylor of New York in April, 1894 Three years previous, according to her statement, exposure brought on ovarian trouble which resulted in inflammation This did not yield to the usual treatment and celiotomy was advised, which she declined The diagnosis made at the time she came under my care, was catarrhal salpingitis, ovaritis and endometritis with anteflexion, some infiltration about right tube and ovary

The treatment instituted was drainage of the uterine cavity secured by negative galvanism to the canal, and fine wire faradic stimulation, which afforded prompt relief and resulted in a cure The period of active treatment was about two and a half months She was kept under observation for several months afterward but there was no recurrence of the trouble The extreme anteflexion was overcome At the present time the patient is in excellent health

Case 12—Mrs C, age 31 years, widow, one child 17 years old, was referred to me by her physician, Some years before, she had an attack of pelvic inflammation resulting from septic infection which caused fixation of pelvic contents The uterus was retroflexed and surrounded by exudation which involved the appendages of both sides Both ovaries were enlarged and exceedingly sensitive The right tube was distended The cervical canal was contracted and consequently drainage was defeated Her menstrual period was accompanied with so much pain and prostration that she was compelled to remain in bed for the entire period The attempt to dilate the canal and promote drainage by means of negative galvanism provoked so much irritation that it had to be abandoned But the extreme sensitiveness was relieved by faradization and the uterus was rendered partially movable Then under anesthesia the canal was dilated, the uterine cavity was thoroughly curetted and packed with gauze Before the gauze was introduced, the uterus was replaced by careful manipulations which freed the adhesions The vagina was then tamponed with iodoform gauze to maintain the position of the uterus

The distended tube discharged into the uterus within a week, the fluid being thin and serous in character

This treatment was followed by frequent irrigation of the uterine cavity with faradic stimulation and a pessary was inserted as soon as it could be borne

Now (three months after the operation) the position of the uterus is maintained by a pessary which is worn without discomfort The tube has not refilled She experiences no pain, though she is constantly on her feet in attending to her duties as housekeeper She menstruates without pain and does not remain in bed during the period This patient can not be considered cured yet, but she is in a condition where improvement will continue and a cure will result Celiotomy had been advised in this case and, at one time, I feared it would be necessary

I could relate many more cases similar in character, but these will suffice to illustrate my point Remember, they are selected cases, many of them being chosen because a radical operation had been advised by another operator before they came under my care

351 West 57th Street

DISCUSSION

Dr Charles P Noble, Philadelphia—said that the method of treating the stump, advocated by Dr Dunning, was practically the same as that employed by Dr Pratt, of Chicago The only difference he saw was that the latter did not put in a provisional suture With reference to Dr Goelet's paper, while it was interesting, it did not contain anything particularly new in the treatment of inflammatory diseases of the uterine appendages

Dr M Price, of Philadelphia—wished to criticise the constant tendency to new methods, and calling them "my method" This is not necessary, because the rules laid down by the older surgeons, such as Tait, Keith and Bantock, answer every purpose He agreed with the statement made by Dr Goelet in his paper, that many patients with ovaritis and salpingitis are being operated on unnecessarily During the past year he had turned away many women telling them that there was nothing the matter with their tubes or ovaries, and yet nearly all of them succeeded in finding another surgeon to remove their appendages In cases where actual tubal or ovarian disease exists, he regards simple curettage and drainage of the uterus as futile In many of these cases the cervical end of the tube is entirely obliterated by the inflammatory condition

Dr Dunning had little to say in closing the discussion With regard to the question of priority, he had nothing to say whatever, except that if Dr Pratt, of Chicago had been pursuing the method which he had proposed he was not aware of it Dr Noble had, it seems, treated the subject in a very flippant manner and Dr Dunning thought he would some day encounter a case of obstruction of the bowels caused by adhesion of a loop of intestine to the raw surface left there, cutting off the tube and ovary, and then he would remember his paper and the method he had advocated.

CELIOTOMY FOR PUERPERAL SEPTICEMIA AND FOR PUERPERAL INFLAMMATORY CONDITIONS

Read in the Section on Obstetrics and Diseases of Women, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md May 7-10, 1895

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The conditions under which it is desirable to perform an abdominal section in the treatment of the septic and inflammatory complications of the puerperal state are as yet not definitely determined The problems involved are now pressing for solution, and the subject is receiving serious consideration by many members of the profession So long as it continues to be a fact, that large numbers of women annually lose their lives from puerperal septicemia, this subject must be studied by the obstetrician and gynecologist, until the prevention and cure of puerperal septicemia are placed upon a thoroughly satisfactory basis This paper has been prepared upon the invitation of our President, to serve as an introduction to the general discussion of the problems involved As I have recently discussed this subject upon two occasions, my remarks will be based upon the papers referred to[1]

Cases of puerperal sepsis and of puerperal inflammatory conditions may be divided into two classes 1 those in which some pathologic condition is present in the sexual organs before labor, 2, those in which these organs are normal at the beginning of labor

The first class embraces those cases of sepsis and peritonitis caused by the bruising or rupture of tumors situated in the pelvis, or of purulent or other septic accumulations in the Fallopian tubes, or the adjacent pelvic organs It is unnecessary to discuss this division of our subject at length, as there is little difference of opinion concerning it, and the nature of its treatment is reasonably plain That puerperal peritonitis may be due to the bruising or rupture of tumors during labor has long been recognized Any variety of pelvic tumor may be bruised, or have its blood supply cut off by torsion of its pedicle, and become inflamed and gangrenous, and thus set up a more or less serious peritonitis Dermoid cysts are especially liable to undergo inflammatory changes when they form a complication of labor The cardinal points to which attention should be called in this class of cases are, that the birth canal and lymphatics are not involved, hence the conditions present are very similar to those in non-puerperal peritonitis Prompt operation, with the removal of the tumor, has been followed by a high percentage of cures

Puerperal peritonitis due to the rupture or bruising of purulent or other septic accumulations in the uterine appendages, existing prior to labor, is not of frequent occurrence This phase of the subject has not been very systematically studied The references to it in the literature are very few In 1891 I called attention to this subject[2], and reported three cases, in which the bruising of pus tubes during labor had set up peritonitis I have personal knowledge of two other cases which occurred in this city Of thirty-two eminent American gynecologists, from whom I have received replies to a letter of inquiry concerning this, among other subjects, I find that but three have operated for peritonitis due to a pus tube, which had antedated labor, and each of these gentlemen has operated upon but one case[3] My other correspondents either had no personal knowledge of such cases, or at the most had merely suspected that the diseased tube may have antedated the labor, instead of resulting from infection after labor Dr Lusk[4], of New York, states that he has seen three cases of puerperal peritonitis due to the bruising of diseased tubes during labor

The fact that such a large percentage of my correspondents have not met with this variety of peritonitis, is conclusive evidence that it is not common, and therefore that its practical importance is not so great as was anticipated some years ago The comparative infrequence of puerperal peritonitis due to this cause is explained by the fact, that women having even a single pus tube, or other septic accumulation in the pelvis, are usually sterile The relative dangers of puerperal peritonitis of this variety and the results of operation done for it can not be determined at this time, because there are so few of such cases on record Theoretically, the prognosis from operation should be relatively good, because the uterus and the pelvic tissues and lymphatics are not involved The conditions are similar to those of operation for peritonitis in the non-puerperal state I believe that the proper method of treatment to be pursued in such cases is prompt operation, irrigation and drainage

The second class of cases, in which sepsis or inflammatory conditions result from infection of the birth canal, in women having normal sexual organs previous to labor, is a far more important one than that just considered This is the common form of so-called puerperal fever It embraces cases in which the infection is limited to the utero-vaginal canal, those in which the infection has spread to the broad ligaments through the pelvic lymphatics or veins, and those in which the infection has spread to the peritoneum, either by way of the Fallopian tubes or by way of the lymphatics As a matter of convenience we will consider first the conditions under which it is advisable to perform an abdominal section for puerperal peritonitis

Puerperal peritonitis may arise either through the spread of the septic inflammation by way of the Fallopian tubes to the peritoneum, or through the inflammation spreading along the lymphatics, either directly through the uterus to its peritoneal covering, or by way of the lymphatics of the broad ligaments I am not aware of any investigations which have definitely determined the distinctions in the clinical history of the two varieties of puerperal peritonitis, to which reference has been made My own opinion is, that in the first variety (by way of the Fallopian tubes) relatively speaking the inflammatory element is more decided and the septic element is less marked, whereas the reverse is true in the second class of cases (by way of the lymphatics) In the first class of cases, I believe it is the rule to have marked efforts at the localization of the peritonitis, by nature's method of pouring out inflammatory lymph, and that where this result is accomplished, many of these cases go on to a natural cure, and that more of them result in the formation of post puerperal pus tubes, and of circumscribed intraperitoneal collections of pus On the other hand, in the cases in which septic lymphangitis is a marked feature, the element of peritonitis is merely an epi-phenomenon, the condition present being a general septicemia

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[1] Puerperal Pelvic Cellulitis and Puerperal Peritonitis, American Gynec and Obstet Journal, January, 1895 Celiotomy for Puerperal Septicemia and Peritonitis, American Gynec and Obstet Journal, April, 1895

[2] Salpingitis Considered in its relation to Pregnancy and the Puerperal State, Trans. Amer Gynec Society, vol xvi, p 480

[3] Dr Edward Reynolds, of Boston, Dr E B Davis, of Birmingham, and Dr Hirst, of Philadelphia Dr Coe, of New York, reports that he has assisted at such operations

[4] Discussion before the New York Academy of Medicine, Feb 28 1895, on Dr Noble's paper "Celiotomy for Puerperal Septicemia and Peritonitis"

Puerperal peritonitis of the first variety may end in death or recovery within a few days, or it may continue for several or even many weeks, in those cases in which it is of mild type at its onset Lymphatic peritonitis is of relatively short duration, many cases having a fatal termination after a course of a few days The distinctions just made, I believe, represent the facts of the case from the clinical standpoint, and they are supported by the experience of those who have had large opportunities for observation If the distinctions here made are correct, I find no evidence that abdominal section has been performed for lymphatic peritonitis in any considerable number of cases The reports of celiotomies for puerperal peritonitis, with which I am familiar, show that the operations have been done in general after the end of the first week, in other words, at a time in which the subjects of lymphatic peritonitis have either died, which is the rule, or have begun to recover, which is the exception As supporting this inference, I find that among the thirty-two eminent gynecologists already referred to, only four—Drs Boldt, Polk, Carstens and Etheridge—have performed celiotomy for general peritonitis within seven days after labor, and only four—Drs Smith, Etheridge, Polk and Baldy—have operated for localized peritonitis within the same limit of time[5]

Lymphatic puerperal peritonitis is not amenable to treatment by celiotomy I know of nothing, either in my own experience or in the literature, which gives the least encouragement for operating upon this class of cases All who have been operated upon have died It is not difficult to understand why operation done for lymphatic peritonitis should accomplish so little A simple celiotomy, with washing out of the peritoneal cavity, does not influence the principal seat of the trouble, which is in the uterus and pelvic lymphatics, and necessarily can not influence the multiplication of germs which already may have entered into the general circulation The more radical operation of hysterectomy offers but little in these cases, as by the time peritonitis has become a marked feature, either the patient is so reduced as to be unable to withstand the shock of a serious operation, or she is already suffering from marked general septicemia If these patients are to be saved, they must be operated upon at a much earlier stage, before the development of peritonitis or of marked general septicemia

Cases of puerperal peritonitis of a more decidedly inflammatory type, that is, in which the septic element is less marked, are more amenable to treatment by operation In these cases, I believe that the peritoneum has been reached by the spread of the infection along the Fallopian tubes, rather than through the pelvic lymphatics, so that these latter structures are but slightly involved in the morbid process Polk and Outerbridge have reported successful cases of celiotomy for localized peritonitis done within the first week after labor, and many cases are on record in which celiotomy has been performed at a much later period I have nothing new to offer concerning the indications for operation in puerperal peritonitis So far as I know, patients operated upon for general puerperal peritonitis have died, hence, excepting the hope that the diagnosis may be wrong, one would hardly be justified in recommending operation with such a diagnosis I am aware that certain cases are on record, which have been reported as operations for general purulent peritonitis, including some of the puerperal variety, but an analysis of these cases, I think, will convince the impartial investigator that they were really instances of circumscribed peritonitis, although involving a considerable area In cases of localized peritonitis, during the first few days of the disease the abdomen should be opened if the attack be a severe one, and if it does not yield promptly to treatment In cases presenting well marked local lesions, to be made out by bimanual examination, the indication for operation is more urgent than in those in which nothing can be determined by physical exploration In my judgment such cases should be carefully studied, and operation be elected or rejected because of the conditions present—the symptoms and general course of the case—rather than in accord with any rules applied to such cases in general Celiotomy is certainly indicated if the attack of peritonitis be a severe one, which does not yield promptly to medical treatment Also, later in the course of puerperal peritonitis of a milder type, operation is indicated if the patient fails to improve, and is demanded should the case take an unfavorable course In such cases, however, it should not be forgotten that bimanual examination will usually disclose marked local lesions

At the present time it is safe to conclude that the prognosis of celiotomy done for general puerperal peritonitis is fatal In localized peritonitis, the prognosis is best in those cases in which the inflammatory process has become well localized, and in which septic symptoms are slight, or else altogether absent—the case having resolved itself into one of pyosalpinx, of abscess of the ovary, or of pelvic abscess of puerperal origin The prognosis is fairly good in cases of circumscribed peritonitis operated upon promptly, that is within two or three days of the beginning of the attack, which is equivalent as a rule to the fifth, sixth or seventh day of the puerperal period Cases which have gone from bad to worse, and in which the operation is done as a last resort, usually terminate fatally

Celiotomy is occasionally called for in cases of true pelvic abscess, located usually in the broad ligament or iliac fossa, and resulting from a lymphangitis, which has ended in suppuration of the pelvic connective tissue It is at times difficult to determine whether or not the inflammatory process is limited to the connective tissue of the pelvis, or whether it is complicated with tubo ovarian or intraperitoneal mischief In such cases an exploratory celiotomy to determine the extent of the inflammatory trouble is desirable If the broad ligament abscess is complicated by tubo ovarian disease, or by intraperitoneal suppuration, the whole trouble can be dealt with through the abdominal incision If, on the other hand, the morbid process is limited to the connective tissue of the pelvis, and has resulted in the formation of a true pelvic abscess, this can be evacuated by a second, extraperitoneal, incision, made either in the groin or through the vault of the vagina, as may be best in the individual case The personal experience of the writer with this method of treatment has been such that he recommends it highly in this class of cases[6]

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[5] Seventeen of them have operated for puerperal peritonitis later than the seventh day of the puerperal period

We have still to deal with cases of infection of the birth canal, fairly well localized in the uterus, in which the progress of the disease is from bad to worse, in spite of irrigation and curettement of the utero-vaginal canal This class of cases logically should have been considered first, but because of the nature of the treatment which will be recommended in a certain percentage of them, it has been thought best to treat of it last In these cases, septic intoxication or beginning septicemia are marked features, the absorption of ptomaines, or of microorganisms, taking place from the uterus or the vagina Peritonitis, cellulitis or lymphangitis, are either absent or in their incipiency—the infected uterus is the nidus of the morbid process In other words, we are considering these cases as a class distinct and apart, although it is recognized that within one or two days they would develop into cases similar to those already described Some years ago a case belonging to this class would have been treated day after day by irrigation of the birth canal, and by internal medication, until the termination of the case either in death or recovery Under this method of treatment, undoubtedly, a few cases have recovered, but in the great majority, when in spite of curettement and thorough irrigation of the uterus, the septic process increases instead of diminishing in intensity, the issue is a fatal one The proposition to perform hysterectomy in such cases, and thus to remove the seat of the disease, has the merit of being logical This proposition has been carried into effect by Kelly and Smith with a favorable result, and by Montgomery with a fatal issue I have read of another successful case in the hands of a German operator—but am unable to find the reference In these cases abdominal hysterectomy was performed In Kelly's case there was a beginning lymphangitis, in Smith's a beginning peritonitis, and in Montgomery's pus was found in the uterine sinuses

At the present time I am prepared to advocate the performance of hysterectomy for infection of the uterus, when in spite of thorough curettement, followed by copious irrigation of the utero-vaginal canal, and the use of an iodoform suppository and gauze within the uterus, the septic symptoms increase in severity In general, the less radical measures of treatment should be employed for twenty-four or forty-eight hours (and longer in cases of mild type, in which the symptoms are not urgent), this time limit to be varied according to the severity of the septic symptoms In such cases not only should the uterus be curetted and douched, but the patient should be purged with salines, and the use of quinin, baths and anodynes, should not be neglected In all such cases the general condition of the patient, including the pulse, temperature, stomach and *morâle*, is the best guide in deciding for or against immediate resort to hysterectomy In other words, it is by no means proposed to do a hysterectomy because the patient has a septic endometritis or a septic metritis, but to do this major operation only in those cases in which the methods of treatment, at present recognized as most efficient, fail to arrest the morbid process, which, in spite of the employment of these measures, goes on from bad to worse

It will be observed that my advocacy of hysterectomy has been in cases of infection of the uterus early in the course of the disease There is another class of cases entirely distinct from this, clinically speaking, in which it may be wise to add a hysterectomy to the removal of the uterine appendages, either because the suppurative process may include the uterus itself, or because the removal of the uterus as a technical point in the operation may facilitate the recovery of the patient A number of such operations have been reported, but this class of cases must not be confused with that which has just been considered In the one class of cases, the septic inflammatory process is acute, and a hysterectomy if needed at all, will be needed somewhere about a week after labor, whereas, in the other class of cases, the process is subacute, and results in suppuration late in the puerperal month In the one class of cases, the removal of the infected uterus is the principal object aimed at, in the other class of cases, as a rule, the uterus is the least diseased of the pelvic structures

At this time the great success which has been achieved in hysterectomy done by way of the vagina, for non-puerperal conditions, in the hands of the French school of surgeons, raises the question as to whether or not this method of operating should be selected in puerperal cases Experience alone must determine this question This is one of the problems of the future, as only a small number of cases have as yet been operated on by the lower route Upon theoretical grounds, I am not inclined to advocate hysterectomy by the vagina for puerperal infection, as when it is employed we are precluded from inspecting, irrigating and widely draining the peritoneal cavity This method would best fulfill the indications when employed very early in the course of the disease, as then the chances of peritonitis would be small, and the necessity for extensive drainage of the peritoneal cavity would be absent The advocates of the vaginal route for removing the diseased structures from the pelvis, will probably take issue with the general position, that abdominal section is the operation indicated to deal with the various consequences of puerperal septic infection I am prepared to agree with them that large pus accumulations can be more safely dealt with by way of the vagina than by operation from above, but with this exception, from my point of view, the preferable method of operating for puerperal septic inflammation and its results is by celiotomy

The present status of the subject of celiotomy for puerperal septicemia and for puerperal inflammatory conditions may be summed up as follows, the cases may be divided into two classes

a Those having morbid conditions in the pelvis antedating labor, such as tumors, pus tubes, or other septic accumulations, the bruising or rupture of which during labor leads to peritonitis or septicemia Prompt operation in these cases has given good results

b Those having normal pelvic structures at the onset of labor The infectious process may spread through the lymphatics to the peritoneum, and give rise to peritonitis, cellulitis and septicemia It may spread by way of the Fallopian tubes to the peritoneum, setting up peritonitis Or it may be limited to the utero-vaginal canal Celiotomy is not indicated in lymphatic peritonitis, as the morbid process is too widespread to be reached by operation Celiotomy has been followed by a fatal result in cases of general puerperal peritonitis The only ground for advising operation with such a diagnosis is the possibility that this may be erroneous The prognosis is best when celiotomy is done for localized peritonitis, when the process has become well circumscribed and the element of sepsis eliminated, in other words, when the case has resolved itself into one of pyosalpinx, abscess of the ovary, or of pelvic abscess of puerperal origin The prognosis is good when cases of localized peritonitis are operated upon promptly, that is within two or three days of the beginning of the attack, or at about the end of the first week of the puerperium Cases which have gone from bad to worse, and in which the operation is done as a last resort, usually terminate fatally Hysterectomy is indicated for those cases in which the infection is limited to the utero-vaginal canal, when, in spite of thorough curettement of the uterus, together with copious irrigation of the utero vaginal canal, and the employment of proper systemic treatment, the infectious process increases in severity

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[6] Noble, Charles P , Acute Puerperal Cellulitis and True Pelvic Abscess, Amer Jour Obstet , 1893, xxvii, 427

In dealing with the results of puerperal septicemia by operation, celiotomy affords the opportunity for satisfactory diagnosis and adequate treatment The organs involved may be palpated or inspected, and when necessary the operation may be followed by irrigation and satisfactory drainage The vaginal route for operation is indicated for large pus accumulations which are found late in the puerperium

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EXTRA-UTERINE GESTATION—ITS EARLY DIAGNOSIS AND TREATMENT

Read in the Section on Obstetrics and Diseases of Women, at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md., May 7-10 1895

BY S L JEPSON, M D

WHEELING W VA

(ABSTRACT)

The following were the author's conclusions

1 Extra uterine gestation is probably always primarily tubal, the ovarian is a possible rare exception

2 Diagnosis before rupture may often be made with reasonable certainty In some cases it is impossible

3 Diagnosis after rupture can in most cases be made so certainly as to justify opening the abdomen

4 Electricity—preferably galvanism—should be used when a diagnosis is made before rupture, unless the patient can and will secure the services of an expert operator

5 Celiotomy by an experienced abdominal surgeon is always proper in early unruptured cases

6 After intraperitoneal rupture with free hemorrhage, the abdomen should be promptly opened and the tube grasped near the uterus The operation may be completed at once or delayed to restore the patient, as her condition requires

7 After rupture into the broad ligament, abdominal section is not urgent, and often is unnecessary

8 While condemning operations by the inexperienced in cases of no urgency, yet an emergency may arise after intraperitoneal rupture, when celiotomy by the inexperienced may become a duty, but this should never be resorted to without counsel

DISCUSSION

Dr A H Goflet, of New York—said that while Dr Jepson had covered the subject pretty thoroughly, there were some points in the paper from which he wished to differ with the essayist, and first as to the necessity of operating upon every case of unruptured tubal gestation In the first place, the necessity of the operation is the danger of rupture, and that danger is removed if the death of the fetus is accomplished That can unquestionably be done by electricity If rupture has taken place between the folds of the broad ligament, it is admitted by some of our best authorities that it is comparatively harmless and may be left alone He has had several cases of this character, and they resulted very satisfactorily by leaving them undisturbed until the ruptured vessels had sealed up, and then, when necessary, emptying the sac through the vagina In this way we avoid opening the peritoneal cavity Statistics show that even when the hemorrhage occurs within the peritoneum it is seldom sufficiently severe to demand celiotomy for its arrest No one would hesitate to open the abdomen in cases where the bleeding is very severe, but if it has ceased it is far safer to let it alone When the danger of secondary hemorrhage has passed, we can open the sac through the vagina and empty it This procedure is far safer to the patient, and it is our duty always to consider this point

Dr Rufus B Hall, of Cincinnati—said it was very often difficult to decide whether rupture had occurred between the folds of the broad ligament or directly into the peritoneal cavity In sixteen cases coming under his observation, a diagnosis of rupture into the broad ligament was made in fifteen cases, and they were treated as such for varying periods Later on, in operating for the removal of the blood clot it was proved in every case that the rupture had occurred into the peritoneal cavity When we teach that rupture takes place into the folds of the broad ligament more frequently than it does into the peritoneal cavity, he thinks we do not treat our patients fairly We should assume primarily in these cases that rupture has occurred into the peritoneal cavity and be governed by the condition of the patient, or the loss of blood as to when we shall operate

Dr Caleb R Reed, of Middleport, Ohio—said that these cases are not infrequently met with in small country towns, where the assistance of an experienced surgeon can not be readily obtained, and he expressed the opinion that *in such an emergency*, any physician who has an ordinary knowledge of the anatomy of the parts and who has the boldness to use the knife should *not* hesitate to operate While he has had personally but little experience with the use of electricity in these cases, he would not advocate *it* unless he was reasonably sure that it would succeed *in* destroying the fetus, and according to his reading on the subject, electricity was in the majority of cases a failure

Dr. J M Coble, of Dallas, Tex—said he had had three cases of extra-uterine gestation come under his care He regards the operation for extra uterine pregnancy as a very simple one, and said a man who has any skill and knows how to do it, should go ahead and perform it as soon as the diagnosis is made

Dr A Lapthorn Smith, of Montreal—*is in favor of operating for extra uterine pregnancy as soon as the diagnosis is made He also regards it as one of the easiest of the abdominal operations*

Dr J M Duff, of Pittsburg, had had no experience with electricity in cases of extra-uterine pregnancy, but it occurred to him that it would be just as dangerous for one who is not skilled to attempt to use it as it would be for an unskillful operator to use the knife A case came under his observation some three years ago in which he diagnosed extra uterine pregnancy, there was a tubal abortion at about the third month He could not get the consent of the patient to let him operate The woman had a miscarriage about a year later, he was sent for, found her in collapse, and discovered that she had an extra-uterine pregnancy on the other side He operated and found the product of the first pregnancy which was almost as natural as that of the last one, which he knew to be of only eight weeks duration There was no absorption

Dr H W Longyear, of Detroit—said if a case of tubal pregnancy is diagnosed before rupture has taken place, the physician should operate at once, or he should get the most experienced surgeon to do so He cited a case in which the pulse fluctuated more or less for two months At the operation the abdomen was found full of blood clots, partly organized and mixed up with the intestines, and it was with the greatest difficulty that the blood was removed from the abdominal cavity, and he believes that the length of time necessary to do this was the cause of death

Dr Jepson, in closing insists upon the operation being done by an expert when possible He said his remarks were addressed to the average country practitioner who is not competent to operate in these cases There was in his town to-day a man who was doing a large amount of operative work Two years ago this physician was called to a neighboring town to operate upon a case of ruptured tubal gestation He opened the abdomen, and before he could find the ruptured tube, the abdomen was full of blood He was horrified He filled up the abdominal cavity with towels and let his patient die This man was a post-graduate student

With reference to hysterectomy, the expert surgeon who stands up before a Section composed largely of general practitioners and asserts that it is a trifling operation creates a false impression, and it may be the means of leading other men to do operations that are grave although to him they may be comparatively easy

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THE VALUE OF SYMPHYSIOTOMY

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md, May 7 10, 1895

BY HUGH HAMILTON, M Sc, M D

HARRISBURG PA

Operative obstetrics is an essential part of a physician's education The process of natural birth is merely an incident, but a birth may become eventful and ultimately tragic Cases demand action in the order of their occurrence, namely detention from want of maternal power, due to fetal malposition, arising from deformed fetus, by deformed maternal parts Nature makes an effort to sacrifice upon these occasions the child for the mother, because her preservation is the conservation of the species—following this guide, accoucheurs strive to do this and more, therefore the highest aim of the art of midwifery is to save both, through the application of therapeutic remedies and other means More Madden questions if we have an emmenagogue in the special sense in which we use it Recently I had a letter from a Philadelphia physician, stating that brown sugar was an excellent uterine tonic! Upon this question at present it is not necessary to enter When medical aid fails, recourse must be had to manual or instrumental skill or surgical relief, bearing in mind the simple classification, a birth is detained through lack of maternal power The reflexes having been used to stimulate these powers and failed, turning may be resorted to, or the forceps, or both consecutively Forceps do not always fit and will often slip, to overcome the difficulty, contrivances have been made to secure the necessary force in the proper axes of expulsive power (Demonstrated clamp)[1]

2 Malposition of the fetus may be regarded as all but the four vertex ones, *i e*, dexter et sinster, anterior et posterior For although breach presentation gives less risk than others, for all that, the aftercoming head is not always a problem of easy solution Presentations may be modified by manual dexterity and expediency, even then they do not result in living infants

3 Should the deformity of the fetus prevent birth, then instrumental function asserts itself, if possible, *only upon the lifeless infant*, but not reprehensible upon the living one, under certain restricted conditions (Demonstrated my great forceps)

4 When dystocia comes from deformed maternal parts, then modern surgical technique renders pronounced aid These are divided by the anterior-posterior diameter of the pelvis Then means for accurate measurement becomes of great moment The most recent and complete pelvimeter is that of my friend Dr Philander A Harris, of Paterson, N J (Demonstrated)

A Pelves of a conjugate vera of less than 7 c m

B Pelves of a conjugate vera of more than 7 c m modified by symmetrical contraction In class A section is the only method advisable In class B, symphysiotomy, etc, are the proper operations (Demonstrated by charts and my new symphysiotomy knife)[2]

Recent statistics[3] covering the year 1891 before symphysiotomy, and during the subsequent years in *that period, at the Clinic Baudelocque in Paris* there was, in 1892, 13, in 1893, 14, in 1894, 22 symphysiotomies, total, 49 The maternal mortality was four from those undergoing the operation The infantile mortality attributable to those whose mothers underwent the operation was five To go into more details in these years, Pinard reported at the Baudelocque in 1891, a total of 1,654 cases treated, of which number there were 140 deformed pelves, being 8 456 per cent on 1,654, of this number natural delivery took place in 18, or 4 89 per cent upon 1,654, or 57 85 per cent on 140, the whole number of those with deformed pelves The remaining fifty-nine were delivered by artificial means (including premature artificial births, high and low forceps operation, version, Basiotripsy and conservative Cæsarean operation) Or 3 55 per cent on 1,654, or *42 15 per cent on 140* The maternal mortality was 4, or 0 241 per cent on 1,654, or 2 85 per cent on 140, or 6 77 per cent upon 59, the whole number operated on The infant mortality was 31, or 1 87 per cent on 1,654, or 22 14 per cent on 140, or 52 52 per cent on 59

At the Royal Dresden Clinic[4] during the period *from Jan 1, 1892 to July 1, 1893*, eighteen months, there were 2,512 cases of confinement Of this number 610 or 24 per cent had deformity of the pelvis, however, there were 146 of these whose deformity was so slight as not to demand any anxiety whatever, so that the number is reduced to 464 or 19 40 per cent upon 2,512, 424 of this number were fortunate in having unassisted births, or 16 87 per cent on 2 512, or 88 98 per cent on 464, the revised number of deformed pelves Those requiring assistance (in procedures as follows forceps, version, Basiotripsys, premature births, Cæsarean sections, symphysiotomy) were 89 or 3 54 per cent upon 2,512, or 11 01 per cent upon 464 Those who were subjected to operations other than symphysiotomy were 83 or 93 85 per cent on 89 of those totally operated on, or 3 30 per cent on 2,512, or 9 72 per cent on 464 Consequently there were six symphysiotomies performed, giving rise to the following comparative proportions 0 23 per cent, on 2,512, or 1 29 per cent on 464, or 6 7 per cent on 89

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[1] Ann Gynecol and Pediat Vol viii, p 108

[2] Amer Gynec and Obstet Jour, Vol v, p 624

[3] Ann Gynecol et D'Obstet—Tome xliii, 1895

[4] Arb a d Kgl Frauenkl, Bd i and ii, 1893-95

In the published account there was a mortality of mothers, due to operative interference, of 4, being 0 159 per cent upon 2,512, or 0 864 per cent upon 464, or 4 49 per cent on 89 It is but fair to state that out of this number there were 5 deaths in 194 primapara which were expected to give birth naturally although their pelves were deformed They really do not belong to operative statistics, yet they should have been operated on by symphysiotomy and the lives saved This would make the percentage more than double It is difficult to make tabular statements to represent at a glance all we wish, although the Paris figures include *all* deaths and the comparison is more favorable than it seems to the Clinic Baudelocque The infantile mortality was 43 of which there is 1 70 per cent on 2,512 cases, 9 48 per cent upon 464 deformed pelves, and 48 30 per cent upon all operations, 89 The same parenthesis can be made in this respect as upon the mothers mortality, in there being an additional loss of infants of 9, making in all when added to 43, 52 This would increase the percentage to beyond 10 upon 464

The maternal mortality in operations other than symphysiotomy was 3 which gives 0 119 per cent upon 2 512, or 0 646 per cent upon 464, or 3 37 per cent upon 89 operated cases, or 3 53 per cent upon 83 operations *not* symphysiotomy The mothers deaths in symphysiotomy were only 1 *i e*, 0 037 per cent upon 2,212, or 0 21 per cent upon 464, or 1 23 per cent upon 89, or 16 66 per cent upon the operation (symphysiotomy) 6 itself No deaths of infants were due to symphysiotomy

The Clinic Baudelocque in 1894 gives the most recent report and presents the following the whole number of confinements were 2,147, of this number 94 were deformed in the pelvis, the measures were taken by the pelvimeter, being 4 37 per cent on 2,147, even of this number 64 gave unassisted birth, being 2 98 per cent of 2,147 cases, or 67 97 per cent upon 94, the number of deformed pelves, allowing 30 to be artificially assisted (these consisted in Basiotripsys 6, Porro operations 1, symphysiotomies 22, Vectis 1) being 1 39 per cent upon 2,147, or 32 03 per cent on all cases operated on Those cases in which symphysiotomy was not used being 8 or 0 37 per cent upon 2,147 or 8 51 per cent upon 94, all deformed pelves, or 26 66 per cent upon 30, all the cases operated on There was performed 22 symphysiotomies, being 1 22 per cent of all cases upon 2,147, or 23 41 per cent upon all deformed cases, 94, or 73 33 per cent upon all operations, 30 The total operative maternal mortality was 3, which upon 2,147 is 0 139 per cent, 3 20 per cent upon 94, or 9 99 per cent upon 30 The total infant mortality was 8, being 0 37 per cent upon 2,147, 8 51 per cent upon 94, or 26 66 per cent upon 30 The maternal mortality with operations other than symphysiotomy was 2, being 0 0925 per cent of all cases, 2,147, or 2 13 per cent of deformed pelves, 94, or 6 66 per cent of 30, the operated cases, or 25 per cent of the operations other than symphysiotomy, 8 The maternal mortality under symphysiotomy was 1, being 0 046 per cent upon 2,147, or 1 07 per cent upon 94, or 3 33 per cent upon 30, or 4 55 per cent upon 22, the operation (symphysiotomy) itself The infant mortality was *nil*

	Division of Cases on which percentage is based	Total Confinements,	Deformed Pelves	Natural Delivery in Deformed Pelves	Artificial Delivery in Deformed Pelves	Operations other than Symphysiotomy
Paris 1891						
Clinic Baudelocque		1654	140	81	59	59
All cases	1654		8 456	4 89	3 55	3 55
Deformed pelves	140			57 85	42 15	42 15
Operated cases	59					
Symphysiotomy	None					
Dresden (Jan 1 1892 to			(610)		(186)	
July 1, 1893)		2512	464	124	89	83
Royal Maternity			(24)			
	2512		19 41	16 87	3 54	3 31
All cases	464			88 98	11 01	9 72
Deformed pelves	89					93 85
Operated cases	83					
Op other than "S"	6					
Symphysiotomy						
Paris, 1894						
Clinic Baudelocque		2147	94	64	30	8
All cases	2147		4 37	2 98	1 39	0 37
Deformed pelves	94			67 97	32 03	8 51
Operated cases	30					26 66
Op other than S	8					
Symphysiotomy	22					

	Symphysiotomy	Total Operative Mortality.		Maternal Mortality		Infant Mortality was only in *other* operations
		Mothers	Infants	Other Operations	Symphysiotomy	
Paris, 1891						
Clinic Baudelocque		4	81	4		81
All cases		0 241	1 87	0 241		1 87
Deformed pelves		2 85	22 14	2 85		22 14
Operated cases		6 77	52 52	6 77		52 52
Symphysiotomy						
Dresden (Jan 1, 1892 to						
July 1, 1893						
Royal Maternity	6	4	43	3	1	43
All cases	0 23	0 159	1 71	0 119	0 037	1 71
Deformed pelves	1 29	0 864	9 48	0 646	0 21	9 48
Operated cases	6 7	4 49	48 31	3 37	1 23	48 31
Op other than "S"				3 53		
Symphysiotomy					16 66	
Paris 1894						
Clinic Baudelocque	22	3	8	2	1	8
All cases	1 02	0 139	0 37	0 0925	0 0462	0 37
Deformed pelves	23 41	3 20	8 51	2 13	1 07	8 51
Operated cases	73 33	9 99	26 66	6 66	3 33	26 66
Op other than S				25 00		
Symphysiotomy					4 55	

[A comparison with American statistics may be made from the admirable paper by R P Harris, in American Gynecol and Obstet Jour, Vol iv, p 788]

The results are that symphysiotomy relieves the peritoneum from being disturbed, does not divide the uterus, becomes as easy of reparation as any section or re-section of the long bones, permits the passage of a head, frequently without forceps, beside making a perineal rupture less probable, the time required for union of the symphyses allows the uterus time to become completely involuted Its disadvantages are non-union at the symphyses, which affects locomotion, at any rate it offers much in attracting attention to accurate pelvimetry which will exercise caution in prognosis, and facilitate the progress toward scientific obstetrics

1 Creating no necessity for premature artificial confinement

2 Giving up all application of forceps and of all operations implicating the force of the head against the bony resistance of the pelvis (when it is developed or remains in the superior strait, in the excavation or in the inferior strait)

3 The absolute abrogation of embryotomy upon the living baby

4 The enlargement of the size of the pelvis (by symphysiotomy, pubiotomy, ischio-pubiotomy, coccyotomy) in all the cases where the osseous resistance is not overcome by the uterine contractions, the position of the head being well determined, and together with its size, where the calculation demonstrates that when section of the pelvis is made, its enlargement will not be under 7 c m, allowing the passage of head of the fetus at term

5 Where absolute contraction of the pelvis is present (under 7 c m) the section serves for the Porro operation

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SUSPENSIO UTERI—THE PROPER METHOD OF PERFORMING IT, AND ITS RESULTS

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10 1895

BY HOWARD A KELLY, M D

BALTIMORE MD

(ABSTRACT)

Dr Kelly refused to accept the name of ventrofixation or hysteropexy The uterus is not fixed He prefers the name of suspensio-uteri as more accurately describing the condition In the past five years he has performed this operation one hundred and seventy times and thirty-seven times in the past year The indications for the operation are extreme local discomfort associated with uterine displacements, and neurasthenia, with backache and headache In the first class of cases, with local symptoms but no general symptoms, the operation is plain In the last series of cases it is difficult to say just when the operation is indicated The most brilliant cures, however, have been in this class of cases He is willing to take the chances and fail in four cases in order to get one good cure Of the 132 cases reported, 90 were married, and of the 78 per cent had borne children, and 14 of them had had miscarriages Not one died or showed bad symptoms Transient mania has occurred in three cases, pneumonia in one case, and stitch-abscess in three cases Cystitis and frequent urination had occurred in four cases only, and had been but transient

The operation is simple The pelvis should be slightly elevated, and a small incision made just above the symphysis pubis about one and a half or two inches in length The peritoneum is incised and drawn out with forceps Two fingers are inserted to the fundus, and the uterus hooked up Adhesions are stripped off with the fingers or cut with scissors or knife, and the uterus anteflexed The abdominal wall is lifted on the left side until the peritoneum can be seen for one inch away from the line of the incision A needle is then carried through the peritoneum, but not entering the muscular tissue, and then through the posterior uterine wall just below the fundus, taking in about one-fourth of an inch in length, and extending about one-eighth of an inch in depth The suture is then carried to the opposite side of the abdominal wall Another stitch is passed just above the first, near the incision, and inserted into the uterus below the other, and then carried back to the opposite side of the abdominal wall This increases the anteflexion A third suture may be inserted The peritoneum is then closed by a continuous suture, then the fascia is closed and then the skin incision The distance between the uterus and anterior abdominal wall is about one or one and one-half inches The organ is attached by a strong fibrous cord which contains the sutures close to the abdominal wall Pregnancy is not seriously interfered with In only one case, and that after two years, did the uterus drop back

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THE TREATMENT OF HEMORRHAGIC CONDITIONS OF THE UTERUS BY ZINC-AMALGAM ELECTROLYSIS

Read in the Section on Obstetrics and Diseases of Women, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7 10 1895

BY G BETTON MASSEY, M D

PHILADELPHIA

The use of a soluble metallic electrode as the positive pole of a galvanic current is specially avoided in the usual applications to the uterine and other mucous cavities whenever the pure action of the electricity alone is desired To avoid this disintegration of the electrode and the consequent local action of the nascent metallic salt produced by its erosion, it has been necessary to employ non-oxidizable electrodes with this pole, platinum and carbon being the only practicable materials It has however, been more recently discovered that the nascent salts produced by the corrodible electrodes have a distinct value in certain cases, particularly those in which a local alterative and antiseptic action is desirable The salts produced by this erosion of a base metal anode are oxychlorids, produced by union of the free oxygen, and chlorin developed by the electrical action, and being in a nascent condition are particularly active Copper, zinc and iron have been the substances employed by Onimus, Gautier (who has especially studied the method), Morton, Goelet, Cleaves and others, under the designation of interstitial electrolysis, metallic electrolysis and cupric electrolysis

My own work has been almost entirely with zinc, and was originally directed exclusively toward the treatment of incipient malignant conditions, in which the nascent zinc salt has been a most valuable adjuvant to the lethal action of a concentrated current Owing to the practical difficulty that at times resulted from the adhesion of the electrode to the surface after a prolonged application, and also on account of the roughened surface rapidly attained by the electrode, I was led to amalgamate the zinc freely with mercury before using, and am convinced that the expedient is a valuable one Not only does this keep the zinc surface always smooth, lubricated and non-adhesive, but a new value is attained in the use of a nascent oxychlorid of mercury in addition to the oxychlorid of zinc and a far more efficient alterative and antiseptic action results

The additional effect given by this process to the galvanic treatment of hemorrhagic endometritis is shown in the following case histories

Case 1—Mrs I F, aged 54, was referred to me by Dr H W Elmer, of Bridgeton, N J, April 17, 1894 For three or four years she had been suffering from an almost continuous hemorrhage, resulting in great prostration Shortly after the beginning of the hemorrhages, a tumor of the uterus was discovered which was the size of a large fist when I first saw her She was placed under the Apostoli treatment, which produced considerable improvement in the hemorrhages but did not even after six months' occasional treatment entirely correct the hemorrhagic tendency Fearing that the case was a malignant one in spite of the absence of marked pain, I decided to substitute an amalgamated zinc electrode for the carbon one previously employed It was found that the applications with this electrode were better borne, enabling them to be used more frequently Six applications were made in a period of two weeks in December last, completely checking the dribbling, and since then there has been no real hemorrhage and the patient has been restored to health The tumor was materially reduced in size

Case 2—Miss C F H, aged 31, had been under treatment for some time for a uterine fibroid of large dimensions, accompanied by profuse and exhausting menorrhagia Under the ordinary Apostoli treatment the tumor had been reduced somewhat and the menorrhagia lessened, but she still had periods that were too profuse for her impaired strength In January and February of the present year the electrode for intra uterine treatment was changed from carbon to amalgamated zinc, the same current strength, 150 milliampères, being employed All periods subsequent to these applications have been absolutely normal

Case 3—Mrs F, aged 47, had also been under treatment for a hemorrhagic fibroid of smaller size, with a similar history of decrease and partial control of the hemorrhagic feature The metal of the intra uterine anode was changed from platinum to amalgamated zinc about the same time, a current strength of 60 being employed Up to this time her periods had always anticipated by several days, notwithstanding her age, but the first period after the changed treatment was postponed a week, and they have been delayed and normal in amount since

1636 Walnut Street

AERO-URETHROSCOPY

Read in the Section on Surgery and Anatomy at the Forty sixth Annual Meeting of the American Medical Association at Baltimore, Md, May 7-10, 1895

BY WILLIAM K OTIS, M D
ATTENDING SURGEON TO THE CITY HOSPITAL NEW YORK TO ST MARK'S HOSPITAL, NEW YORK ETC, ETC
NEW YORK

Notwithstanding the very great improvements made in urethroscopic instruments during the past few years, the urethroscopic field, in point of size, is still far from being entirely satisfactory Since the invention of the original illuminating apparatus, little if any change has been made in urethroscopic tubes, though they have borne various names and been constructed of many different materials

Glass from its transparency seemed especially adapted to this purpose, but the reflections from its surface and the changes produced by pressure on the mucous membrane, together with the danger of fracture if used in the deeper urethra, render it practically valueless The discovery in 1870 of the great underestimation of the normal urethral caliber permitted the use of much larger tubes, with a corresponding increase in the size of the field, but the practical urethroscopic tube remained and still remains a simple straight tube

In the year 1887 the late Geza von Antal, of Buda-Pesth, in the endeavor to extend the urethroscopic field, evolved the ingenious idea of distending the urethra with atmospheric air He invented an instrument for this purpose which was eminently successful, consisting of a tube with a well-fitting obturator, 6 cm long, with a concave metal shield at its proximal end which fitted over the glans penis, the urethral orifice being drawn upward against this so as to prevent the escape of air After the introduction of the tube an ocular portion, rendered air-tight by a glass plate, was attached by a sliding joint By means of a small tube entering the ocular portion at right angles, the urethra was inflated with a rubber bulb and an inspection of its mucous membrane obtained by a beam of light reflected from a head mirror[1]

This instrument, however, failed to attract much attention and the method met with but little favor among urethroscopists in general

The examination of the inflated urethra was taken up, independently of von Antal's work, in this direction, by Heule of New York (1890) who devised a simpler but equally effective instrument for accomplishing the same results

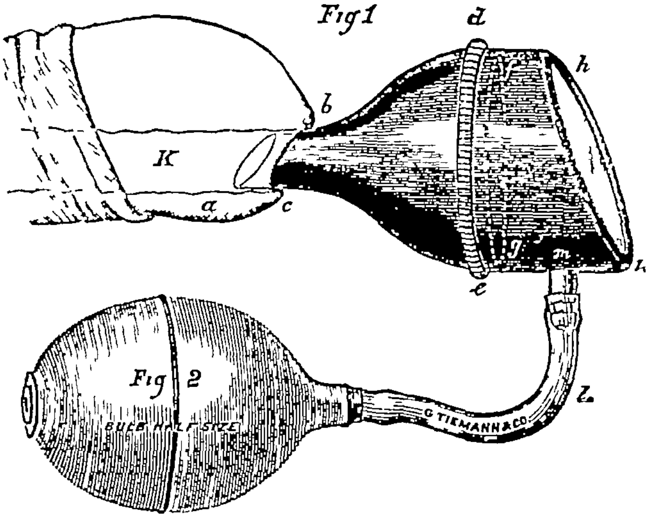

Fig 1 —Heule's Aëro-urethroscope,

Heule's instrument consists of two parts, viz, "the speculum, *a*, *b*, *d*, *e*, and the cover, *f*, *g*, *h*, *i* The speculum is made of rubber, glass or metal, shaped like a truncated cone, with the end *a*, *b*, cut obliquely to facilitate its introduction into the urethra without the aid of a stylet At the other or proximal end is a flange, *d*, *e*, which is useful in separating the cover from the speculum Into this proximal end is closely fitted the removable cover, *f*, *g*, *h*, *i*, having at *h*, *i*, a transparent glass crystal, fitted air-tight, and at *m* an attachment for a rubber tube with bulb (Fig 2) for forcing atmospheric air into the endoscope

"To prevent the glare of reflected light, the glass crystal at *h*, *i*, is placed at an obtuse angle to the line of vision, and the inside of the instrument is blackened The specula at *a*, *b*, *c*, are made of various sizes to fit small and large openings, but at the proximal end, *d*, *e*, are all adapted to one cover, *f*, *g*, *h*, *i*

"In using this instrument the flaccid penis is grasped between the ring and middle fingers of the left hand, the lips of the meatus being opened with the index finger and thumb of the same hand The endoscope held in the right hand by the flange, *d*, *e*, can now be readily introduced into the urethra by means of the oblique end, *a*, *b*, *c*, until the thicker portion of the speculum, near *d*, *e*, fills the opening Air is now forced in by the rubber bulb in the hands of the surgeon or patient until the requisite distension of the urethral canal is obtained In case there should be too much distension, the air may be allowed to escape from the meatus at the side of the speculum by slightly withdrawing it"

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[1] Viereljcrsech f Derm u Syph

Two years later, (1892) E Hurry Fenwick, of London, having followed the work of von Antal and Henle, induced Leiter to add an aero-urethroscopic attachment to his electro urethroscopic illuminator and was thus the first to combine the source of illumination with the air apparatus in a single instrument

This instrument consists, as I have said, of the well-known Leiter illuminator arranged with an inflation apparatus The nose piece is closed with an obliquely set glass diaphragm, so that air forced into the canula by means of an India rubber ball can not but distend the penile urethra up to the commencement of the deep urethra (the compressor urethræ muscle) The cup at the proximal end of the canula receives the convex glans penis, and effectually prevents the indriven air escaping from the urethra, unless a great pressure is exerted The diaphragm, fastened in a collar, is held in place by means of a sliding joint with a bayonet catch, so that when a granular patch, ulcer, or tumor is discovered by means of inflation, the end of the canula is held firmly in position, the diaphragm is removed, and the operation proceeds through the open tube under the direct control of the electric light

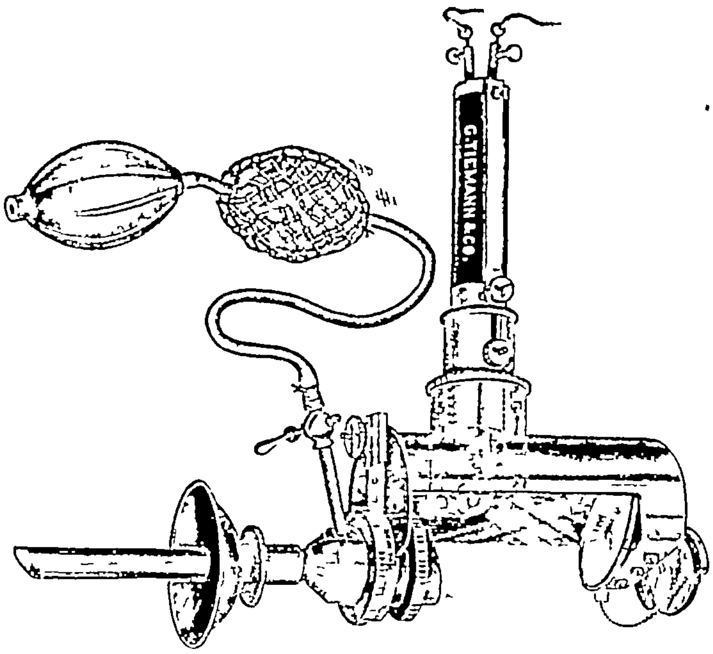

Fig 2—E Hurry Fenwick's Aëro Urethroscope

While this instrument is sufficiently effective to accomplish very excellent results, at the same time it presents several marked disadvantages, so that it can by no means be considered as the ideal instrument for this purpose It is heavy and cumbersome, the distance between the glass surface of the diaphragm and the meatus is over two inches and a quarter (a decided consideration when we remember that the intensity of the illumination diminishes as the *square* of the distance) In making an application the diaphragm must be removed and laid aside, then found and replaced, making an annoying break in the rhythm of the operation, while it is not always easy to immediately connect the bayonet catch The illumination from a concave mirror (reflected light) is inferior to that obtained by means of a plano convex lens

Fully recognizing the advantages which at times must be derived from an examination of the inflated urethra, I have designed an aero urethroscopic attachment to my "perfected" urethroscope which obviates the objections pertaining to previous instruments of this character

This consists of a hard rubber disc, one and three-fourth inches in diameter and one-sixteenth of an inch in thickness, backed with metal In the center of this disc is a circular aperture, one-half inch in diameter, to the inferior edge of which is soldered a metal rim one-fourth inch in depth, forming the male half of a sliding joint by which the different sizes of urethral tubes are attached to the instrument On the superior surface of the disc, a glass diaphragm, held in a metal collar and placed at an oblique angle to prevent the reflection of light, is arranged on a pivot so as to swing over the aperture, hermetically closing it, or, when desired, instrumental applications through the tube beneath may be made *by simply swinging it in the opposite direction* A slight projection on the side of the cap, locks under the outer end of the metal shoulder, by means of which my illuminator is fastened to the plate in exactly the same manner as it is to the Klotz tube A small metal tube extends from the edge of the plate into the movable cap To the outer end of this tube is fastened a piece of rubber tubing with double India rubber bulbs, like those used in the Paquelin cautery, by means of which the urethra is inflated Urethral tubes of any length or caliber may be used with this instrument To prevent the escape of air from the urethra the proximal ends of the ureteral tubes are made conical so that they may be firmly wedged into the meatus urinarius, though if the metal cap covering the glans penis is preferred, tubes of that pattern may be adopted The advantages of this instrument over others designed for a similar purpose are

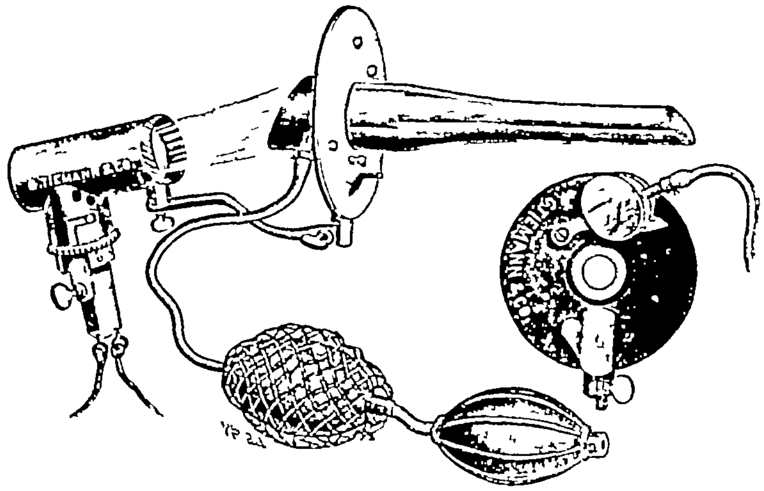

Fig 3—W K Otis's Aëro urethroscope

1 Ready access to the urethral field for the purpose of making local applications under the direct control of the light

2 Minimum distance between the eye and the urethral mucous membrane, hence a better and clearer view of the field

3 Extreme lightness

4 Simplicity of construction and moderate cost

Aero urethroscopy is undoubtedly a valuable addition to our means of obtaining a visual inspection of the urethral mucous membrane and will, in many cases, render a diagnosis possible which would otherwise be obscure, nevertheless the field of vision, even in this method, is limited and by no means as perfect as some observers would lead us to believe The manipulation of the inflating apparatus slightly complicates the technique of the examination, and the occasional escape of air into the bladder is unpleasant to the patient and annoying to the surgeon The clouding of the glass diaphragm by the exhalations from the moist, warm mucous membrane sometimes renders the view hazy and unsatisfactory The pressure exerted by the air also adds an element of uncertainty in correctly diagnosing the exact condition of the mucous membrane, while the view of the walls of the urethra is indirect, as when looking down a gun-barrel, flaws may escape notice which would be readily observed if we were looking directly at the surface of the metal, so lesions of the mucous membrane may escape detection by this method of examination We are, however, able to obtain a direct view at any point by removing the diaphragm and allowing the air to escape When the diaphragm is not in place this instrument practically becomes a simple urethroscope and the same view is obtained of the urethral mucous membrane as through the ordinary tubes

The difficulty in obtaining a thorough appreciation of the morbid conditions present in the many obscure cases which present, when the urethra is implicated, renders any additional assistance to our present methods extremely desirable, so that despite these drawbacks the aero urethroscope furnishes us with a new means for investigation and an aid to diagnosis which no urethroscopist of the present day, no matter how skillful, can afford to ignore Aero-urethroscopy does not supplant the older method of visual urethral examination, but rather is a powerful ally, by whose aid we are enabled to increase our appreciation of the conditions existing in the urethra by obtaining more extensive pictures from different points of view, The advantages of ocular examination of the inflated urethra have already been demonstrated, and the simplicity and facility of manipulation of this instrument, it is hoped, will add to the growing popularity which the method already enjoys among those who have given it a practical test

5 W 50th Street

VAGINAL FIXATION IN RETRODEVIATIONS OF THE UTERUS, WITH SOME REMARKS ON VAGINAL CELIOTOMY

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md May 7 10 1895

BY X O WERDER, M D
PITTSBURG PA

The newest addition to our operative treatment of the backward displacements of the uterus is vaginal fixation It is the result of a gradual evolution of Schucking's method, and its modifications by Zweifel and Sänger, and has been developed to its present form by Dührssen and Mackenrodt, each of whom claim priority, and is known by their respective names, their methods varying very little from each other

The technique of Duhrssen's operation, which is the simpler of the two is as follows the cervix, having been seized by a volsellum forceps, is drawn down toward the vulva, a transverse incision is made through the anterior vaginal wall close to its attachment to the cervix, care being taken to avoid the bladder The latter is then dissected away from the uterus just the same as in vaginal hysterectomy It is important to push the vesico uterine fold as far up toward the fundus, by the finger, as we can, in order to expose as much of the body of the uterus as possible If thereby the peritoneum should be opened accidentally, no attention is paid to it, the important point upon which the success of the operation depends being to be able to secure the uterus by the fixation sutures at or near its fundus A stout silk ligature is now passed through the anterior uterine wall at its highest visible point, traction on this enables us to catch the uterus a little higher up by a second provisional suture If drawing on this does not bring the fundus into the vaginal wound, a third similar suture usually accomplishes this It is now fixed by silkworm gut sutures to the edges of the vaginal wound, two such sutures being generally employed The provisional sutures having been removed, the rest of the vaginal wound, which is usually converted into a longitudinal one, especially when there is a shortening of the anterior vaginal wall, is now closed by a continuous catgut suture The patient is returned to bed and kept there about ten days The fixation silkworm gut sutures are removed about six weeks after the operation In my last eight cases I have employed buried silkworm gut sutures and have found no harm resulting from them thus far After the operation the uterus is found firmly fixed to the anterior vaginal wall and is, I believe, in about as nearly a normal position as any fixation operation can possibly bring it

Mackenrodt's operation differs from the one just described only in the method of vaginal incision Instead of separating the anterior wall of the cervix from the vagina by a transverse incision at the cervico-vaginal junction, he makes a longitudinal incision extending from the center of the cervix to within an inch of the meatus urinarius, dividing the anterior vaginal wall into two equal flaps which are dissected off the bladder, the dissection is carried up along the anterior wall of the uterus until the entire bladder is separated from it The fixation is done in the same manner as in Duhrssen's operation

Failures in both of these operations have been due to the fact that the fixation sutures were inserted too low down in the body of the uterus In order to guard against a return of the malposition the fundus must be sutured to the vagina In the only case, my first one, in which I followed this method, and which was at least a partial failure, the uterus returning into the position of slight retroversion shortly after removing the sutures, I no doubt made the mistake of fixing the uterus below the fundus It is rather difficult to strip the vesico-uterine fold up to the fundus without tearing through the peritoneum This probably induced Duhrssen to open the peritoneum as soon as the bladder has been separated from the uterus in all of his more recent cases, as it allows the operator to see the exact point where he wishes to insert his sutures, which is at the fundus, between the cornua—the fundus is reached and drawn down in this *intraperitoneal* method in the same manner as described above, that is, by climbing up along the anterior wall of the uterus with provisional sutures This is preferable to seizing the body of the uterus by means of tenacula or volsellum forceps, which tear out very easily

In the thirteen cases in which I have performed vaginal fixation, in twelve I have operated by the intraperitoneal method and regard it as much preferable to, and more satisfactory than, the older ones Thus far I have not seen a single failure in these twelve cases, though they are all too recent to justify an opinion as to the permanency of the results, they all having been operated upon within the last seven months

In all cases the operation of vaginal fixation should be preceded by a thorough curettage, not only because an endometritis is present in nearly all the cases requiring an operation, but because it is advisable to have an aseptic uterine cavity, should any of the sutures pass through the endometrium If an operation about the cervix is required, it should be performed before fixation is undertaken In most of my cases, in addition to a curettage, trachelorrhaphy or excision of cervical erosions, or an amputation of the cervix was done previous to fixation and followed by an Emmet's perineum operation, all at one sitting An anterior colporrhaphy can easily be combined with this operation, especially when Mackenrodt's method is employed, the only additional step being required is an incision of a crescent-shaped piece from each vaginal flap before bringing them together by the continuous catgut suture

Pregnancy has occurred only in one of my cases, the first one, who went to term and was delivered without any difficulty Duhrssen says in regard to this point [1] "Pregnancy continues to term without any disturbance and no harm has resulted during labor which can properly be attributed to the preceding operation By observing a few precautions, the uterus will remain in the position secured by the operation after pregnancy and labor"

The intraperitoneal method of vaginal fixation termed "vaginal celiotomy," by Duhrssen, has, beside permitting of a more satisfactory fixation of the uterus, the great advantage that it allows the fundus to be drawn down to the vulva and outside of it, and with it the adnexa, which can then be carefully examined both by touch and visual inspection, as I have repeatedly been able to demonstrate in my cases When necessary, diseased ovaries and tubes can, as a rule, be removed with ease in this manner Adhesions about the uterus and appendages can be separated with little more trouble than by abdominal section Small fibroid tumors have been enucleated from the body of the uterus during this operation[2,3], and A Martin[4] has divided the anterior wall of the uterus by a median incision up to the fundus and after removing small growths from the uterine cavity, closed the uterine incisions and re-attached the bladder to the uterus From this we can see what a large field is hereby opened to the conservative pelvic surgeon

In two of my cases the retroflexed uterus was adherent with its appendages and the adhesions were broken up during the operation In one of my cases an ovary and tube was removed In two others, cystic ovaries were punctured, once with the thermo-cautery In all cases the convalescence was that following an ordinary curettage, excepting one in which some complications delayed the recovery, and the patients were usually up on the tenth day

The only precaution necessary in the cases in which we wish to bring the uterus and adnexa out of the vaginal incision before the vulva, is to provide a free vaginal incision and to make the opening through the peritoneal fold connecting uterus and bladder, just as large as that through the vaginal wall A neglect of this precaution may lead to serious difficulties in returning the uterus, with its appendages, as I experienced in one case Since then I have been in the habit, when I wish to examine the adnexa, or to separate adhesions, to connect the transverse vaginal incision with a longitudinal one, in other words to combine Duhrssen's and Mackenrodt's incisions, which gives ample room for any operations indicated

From what has been said we can place the indications for vaginal celiotomy or the intraperitoneal methods of vaginal fixation on the same level with ventrofixation Its advantages over the latter operation, however, are

1 The avoidance of an external incision, which is always regarded with more or less fear by the patient, and which is liable to be followed by stitch and mural abscesses, fistulæ and hernia, accidents not common, but always within the range of possibility

2 Less danger from septic infection, as there is no manipulation of intestines, which hardly ever come into view during the vaginal operation, and less exposure of the peritoneum

3 The shorter and smoother convalescence with absence of the distressing symptoms usually following laparotomies, such as intense thirst and flatulence

To this I may add another advantage, which is, that patients with retrodisplacements, who require operation for some other lesion about the cervix or vaginal outlet, will readily consent to an operation correcting the malposition of the uterus, provided this can be done by some vaginal operation without increasing the risk or time of convalescence, while the operator frequently hesitates to urge, and the patient is loth to consent to an operation requiring some external incision Many patients, however, as I have learned from experience, are very much disappointed after recovering from some plastic operation, when they learn that they still have a displacement of the uterus for which they may require the use of a pessary In most cases in which a displacement complicated other lesions requiring plastic operations, I have advised vaginal fixation and this explains in a measure, the comparatively large number of cases operated upon within a short period of time

The only contra-indication to the operation is a very narrow vagina, though my list includes two unmarried patients, in whom, however, the operation proved rather difficult It may be said in favor of ventrofixation, that it is easier than vaginal fixation, which is, no doubt, true, but the gynecologist who has been trained in plastic work and has had experience in vaginal hysterectomies will find no difficulty in its technique.

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[1] Ueber die Operative Heilung der Mobilen und Fixirten Retroflexio Uteri auf Vaginalem Wege, Archiv für Gynaek 37 Bd, 1891, page 447

[2] Dührssen, *op cit*

[3] Vineburg, New York Medical Record, March 2 1895

[4] Centralbl für Gynaek, 1895

A REMARKABLE CASE OF VISCERAL ANOMALY AND INVERSION

BY G E CRAWFORD, M D, PH D
CEDAR RAPIDS, IOWA

A very remarkable and interesting case of congenital deformity and anomaly of the heart and other viscera came to my notice a few days ago at the autopsy of a young girl of 16, who had suddenly died of heart disease after a brief incidental illness of a couple of days

I had had the child under observation for about five years Her people are ignorant Bohemians and I was not able to get much history of the case previous to that time Though a delicate child she had not been sick much, had measles when 3 years old They had no knowledge of her heart trouble, and did not know that there was anything the matter with her until her chest became much deformed, and this they did not notice until she was 10 years old and then attributed it to a fall, but there was no evidence that she had had any fall

I mention these trivial matters in the absence of a better history, merely to show how mild the symptoms must have been not to have attracted any attention until she was 10 years old

When I first saw her, about five years ago, she was suffering from some febrile disturbance, probably having no causative relation to the heart trouble The heart at that time was much enlarged and beating tumultuously, with a loud mitral murmur Dyspnea and cyanosis were marked, I expected her to die, and told her parents that she was liable to die at any moment But the fever passed off and she soon recovered and was as well as usual again A year ago she had a similar attack, which was followed for a time with pain in the chest, dyspnea and very bad heart action I prescribed two or three times for this, and then saw nothing more of her until the day she died Her father told me since that for some time past whenever she stooped over she would spit up some blood On the evening of June 17, they sent to me for something to stop vomiting, the girl wrote the note herself I prescribed for that symptom Two days after I was called to see her and found her with quite a high fever and in a restless, excited state bordering on delirium, the heart beating violently, the pulsation seen and felt on the right side The impulse was so strong that the concussion of the chest could be seen across the room I called again at noon, found her extremely cyanotic, pulseless at the wrist, though the heart was still beating violently She soon afterward died

I made a post-mortem at 5 o'clock in the presence of several of my medical associates The form was tall and slender—rather above the average height of a girl of 16, with a marked deformity of the thorax, which was narrow and protruding in the front—a marked condition of pigeon-breast, also protruding posteriorly in a posterior curvature of the spine—a veritable visceral hump or dome The heart, immensely enlarged, was found to fill the entire left side of the thorax, it was turned half over to the right, with the left ventricle to the front, extending diagonally across the chest downward and to the right, bringing the apex well over in the right side The pericardium was greatly thickened and abnormally adherent, both to the heart and the diaphragm, contained no fluid The left side of the thorax was thus entirely filled with the heart, there was no left lung whatever

On the right side of the thorax, behind the apex of the heart, was a double lung, consisting of two long narrow lobes, side by side, connected in the middle for about two thirds of their length This anomalous lung was healthy, and seemed to have about the capacity of one normal lung

The heart as it was taken out with the pericardium, with the auricle collapsed, measured nine inches in length and six inches in greatest breadth, and weighed three and a quarter pounds There was but one common auricle, which was greatly dilated, which opened into each ventricle It would probably hold a pint and a half of blood when distended The auriculo ventricular valves were very defective, especially the mitral, which could have offered very little resistance to regurgitation The ventricles were greatly hypertrophied, especially the left The aortic and pulmonary valves were intact, and this alone made it possible for any circulation to be carried on The arch of the aorta was dilated, but beyond this it was remarkably small The pulmonary artery was short, dilated and bifurcating about an inch and a half from its origin, passed into each side of the double lung

The liver was also enlarged to several times its normal dimensions, extending entirely across the body, with the gall bladder on the left side

The stomach was long, intestinal shape, having scarcely any of the form of the normal stomach

The spleen, or rather three distinct spleens, were situated in the right side, also enlarged The larger one measured seven inches in length by three inches in breadth, the second one, which is about the size of the normal spleen, is three inches by two inches, and the smallest one two inches by an inch and a half These glands are entirely distinct, but connected by large blood vessels, about two inches in length

The kidneys were about double the usual size

The other abdominal and pelvic organs were healthy and in their normal relations

All who saw the case were agreed that it was the most remarkable of its kind of which they had any knowledge And it is especially interesting to know that a child could live in this condition to be 16 years old, and nearly all the time in quite a comfortable degree of health

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PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI)

BY BYRON ROBINSON
PROFESSOR OF GYNECOLOGY POST GRADUATE SCHOOL
CHICAGO

(*Continued from page 152*)

The omentum colicum Halleri is the right lower border of the great omentum It can be distended with air driven through Winslow's foramen If one follows the peritoneum from the right kidney upward and outward over the pars descendens duodeni, upward to the anterior part of the transverse colon, it will be noticed that this layer of the peritoneum passes into the anterior layer of the great omentum This is Haller's omentum and it will extend along the ascending colon for a considerable distance, the point of its lower end may reach the cecum in some embryos which I have examined This same process of peritoneum which I traced from the right kidney until it was lost in the anterior layer of the great omentum, can also be traced up to the ligamentum hepato duodenale with which it may blend and form what is known as the ligamentum hepato-colicum This fold of omentum reaches from the hepatic flexure of the colon to the liver It seems to be often no more than an increased projection of the ligamentum hepato-duodenale In quite a number of cadavers I have actually noted the gall bladder lying in this coli hepatic ligament There was a mesentery of over an inch between the liver and the gall bladder, and also a mesentery reaching from the gall bladder to the hepatic flexura of the colon The gall bladder lay in this ligamentum hepato colicum exactly as the pancreas lies in the great omentum between the stomach and colon (in embryos) This hepato-cysto-colic ligament is of great importance in subjects of gall stone For it will serve two valuable purposes, viz 1, it will conduct an hepatic calculus ruptured through the gall-bladder toward the colon external to the peritoneum and induce it to enter the colon on a portion not covered by peritoneum, 2, this ligament, when large will especially aid in circumscribing pus which arises from rupture of the gall bladder It will form a barrier against infectious invasion By the peculiar ligamentum hepato-colicum, there is formed a more or long distinct cone-like sac in the right border of the great omentum, just as there is formed a sac in the lower left border of the ligamentum phrenico-colicum Any evaginated peritoneal sac is liable to obliteration, so this sac no doubt is more or less obliterated by coalescence or readjustment

Bochdeleck asserts that Haller's omentum gradually loses the capacity of being distended with air being blown through Winslow's foramen toward the fifth embryonal month through coalescence Yet some embryos at five months allow a large sac to be distended by air in the omentum colicum Halleri I have observed in adults that the omental sac is frequently limited in various directions by adhesions In an adult male which I recently examined, I tore through the gastro-colic omentum to make careful observations of the lesser omental cavity for two reasons 1, because the case possessed a mesenterii commune and I wished to note the existing omental relations, and 2, the remnants of ancient peritonitis were quite general and I wished to note its effect on the omental cavity In this case the omental cavity was chiefly limited toward the left by approaching adhesions or coalescence of the walls where the sac was prolonged between narrow layers and peritonitic bands stretched across the space, and the lesser omental bag lacked the space of an adult form encroaching adhesions on the margin of the sac I could find no constricted off sacs, but could find depressions constricted off, which could easily become constricted off sacs by further coalescence due to inflammations I have found peritoneal pockets or sacs constricted off by inflammation frequently along the colons Such sacs or peritoneal pockets appear to be lined by genuine peritoneum and are of various sizes, from that of a hazel nut to that of an apple The only typical lesser omental sacs are those of embryos under seven months of intra-uterine life For in adults I find the lesser omental sac, especially at its left end, variously limited in size by various kinds of encroaching adhesions at its margins In short, the encroaching adhesions or coalescence of the lesser bag is apt to occur on the left, adjacent to the ligamentum phrenico colicum and at the right in the omentum colicum Halleri Bochdeleck gave a splendid illustration of the relations of the ligamentum hepato colicum by noting that it will distend with air driven through the Winslow's foramen and also that in some cases the distension will actually reach to the neck of the gall-bladder, along the descending part of the duodenum and even in front of the pancreas All the above distensions are in direct communication with the lesser omental bag The lesser omental cavity becomes partially obliterated at different periods of existence, without any rule I can formulate However, my examinations report that the chief variations arise at the extreme right or left of the omental sac Now to retrace the steps by which the great omentum becomes the mesocolon is impossible so far as it relates to Meckel and Miller's views Coarse instruments will fail, and even air driven through Winslow's foramen is insufficient to note the original boundaries One can not tell what his instrument has divided or what the distending air has separated, and I am sure that much manipulation does not bring one to the goal of primitive structures I must state, however, that embryos show very distinctly that the origin and method of formation of the meso colon transversum as well as the circumference of the bursa omentalis vary very much as regards individuals and time

It may be summed up as follows from the ligamentum hepato-colicum to the ligamentum phrenico-colicum, the peritoneum consists of one membrane, *i e*, one blade of the great omentum at its lower border It may be said that the lesser omental cavity is the diverticle of the mesogastrium posticum The lesser omental cavity may consist of diverticulæ constricted off at either right or left ends or both, *i e*, closed off sacs may exist in the ligamentum phrenico-colicum or in the omentum colicum Halleri

THE GREATER OMENTAL CAVITY, THE GREATER CAVITY OF THE PERITONEUM, THE GREATER BAG OR SAC OF THE PERITONEUM

The greater sac of the peritoneum is that one placed between the viscera and anterior abdominal wall It comprises all the peritoneum except that of the lesser sac The greater or lesser sacs are not placed in regular order, but may be compared to an hour glass with one end smaller than the other, and also the smaller end bent over the greater end, *i e*, the hour-glass is not in the same straight line The smaller sac lies almost wholly within or below the greater sac The greater sac with its posterior layer lies on and faces the anterior surface of the viscera Its posterior layer lines the anterior abdominal wall The posterior layer of the sac lies on the surface of the viscera and sends back folds and tucks into the clefts between the viscera The various diverticulæ which the greater bag projects between the viscera not only line the visceral clefts, but pass back in places to most the projections of the lesser bag, *e g* one diverticle passes back between the liver and diaphragm to meet the lesser omental bag Another projects between the stomach and liver to meet the lesser bag at the tranverse fissure of the liver Still another pouch of the greater bag passes to the dorsal wall between the transverse colon and the small intestines This pouch comes in contact with the lesser bag at the under surface of the upper blade of the mesocolon transversum The long, wide, pendulous, pars colico-omenti hangs freely into the greater omental sac In short, the greater sac almost surrounds the lesser sac The anatomic fact is that the two sacs greater and lesser, are not and should not be separated They are one and the same membranous bag simply constricted at the foramen of Winslow, lying between the portal vein and the inferior vena cava At the lower end of the great omental sac there are some smaller diverticulæ There is one between sacrum and rectum, one between uterus and rectum and one beside the omental sac envelopes the viscera lying along the dorsal wall and in the pelvis, and then its anterior layer lines the anterior abdominal wall The great omental flap consisting of four layers (the pars colico omenti) hangs like a veil in the middle of the great bag

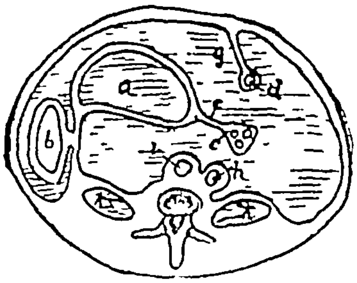

Figure 86

At this place the figure of Cruveilhier (See JOURNAL, p 149) can be referred to as it is an apt cut in illustrating some of the views of coalescence It will be observed by this figure that the two blades of the mesogaster, one from the posterior and the other from the anterior surface of the stomach, converge at the greater curvature of the stomach and pass downward below No 5, whence the two blades return on themselves, passing upward entirely in front of the transverse colon, onward to the dorsal wall of the abdomen Now, the posterior blade of the great omentum ascends on the dorsal wall of the abdomen, while the anterior blade descends on the dorsal wall for a short distance, thence it passes forward to form the upper blade of the transverse mesocolon When this upper blade arrives at the transverse colon it passes around the bowel and forms the under blade of the transverse mesocolon, whence it descends to form the mesentery of the small intestines The dispute between the coalescence and displacement theories concerns the pouch No 2 The coalescence theory claims that the peritoneal pouch No 2 becomes obliterated by adhesion The displacement theory claims that the pouch No 2 is drawn out and readjusted so that no part of the serous layer lining the peritoneal pouch is destroyed v Hansen wrote a treatise on the physiology and anatomy of the peritoneum in 1839 in Latin, in which he claims that in the fetuses there are five peritoneal layers in front of the transverse colon (as in the figure) and not three as in (Fig 21, JOURNAL, p 108) In the adult the adhesions of the layers forming pouch No 2 and the dotted line into one single layer obliterates pouch No 2 and produces conditions observed in grown persons But the readjustment or displacement theory allows of no coalescence or obliteration and insists on the dragging out of peritoneal pouches during the progress of visceral development The displacement theory readjusts the serous surface over the viscera during their varying vicissitudes of growth and fluctuations of size The displacement theory is a very elastic and widely applicable affair It allows viscera to appropriate serous membrane to the disadvantage of other organs It is an evolutionary theory, a survival of the fittest, *e g*, the growing cecum steals away from the atrophying appendix its covering, appropriating it to its own needs

In regard to the great omentum, it may be said that not all the mesogaster is involved in the formation of the lesser omental cavity Only that part of the mesogaster which is in contact with the stomach itself is involved in making the smaller peritoneal bag That part of the mesogaster which is attached to the duodenum does not enter into the formation of the lesser sac

The mesoduodenum, minus the serous epithelial layers which originally faced both sides, lies against the left dorsal wall and does not engage in forming the lesser sac It may be allowed that a small part of the left serous surface of the mesoduodenum enters into the formation of a small part of Haller's omentum, but that is not settled Hence only the gastric portion of the mesogaster is involved in the formation of the lesser sac of the peritoneum

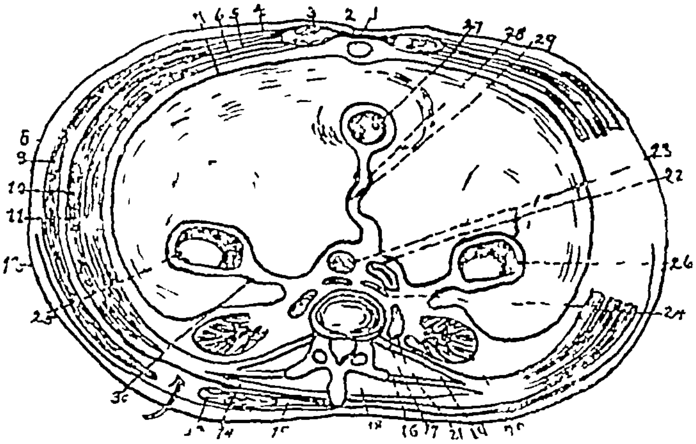

Fig 87 (after Debierre 1890 modified) represents a horizontal section of the body on a level with the umbilicus to show the disposition of the peritoneum 1 white line 2, round ligament of liver 3, rectus abdominalis muscularis 4 aponeurosis of external oblique 7 parietal peritoneum 20, kidney 21 psoas muda 22, vena cava, 23, aorta 24, pillars of the diaphragm 25, left descending colon 26, right ascending colon 27, small intestine 28 right blade, 29 left blade of the mesentery 30 mesocolon left It must be observed that the vertical colons in this diagram are represented as possessing each a mesocolon, which long investigation in the viscera has convinced me are abnormal The normal vertical colons appear to me to possess no mesocolon The arrow points to Petit's triangle

As regards the views of the coalescence of the peritoneal surfaces or displacements of the same, considerable has been said by only a few authors Those who support the coalescence theory must present reasonable grounds, especially, to show why it applies to distinct localities of the peritoneum as, *e g* ,

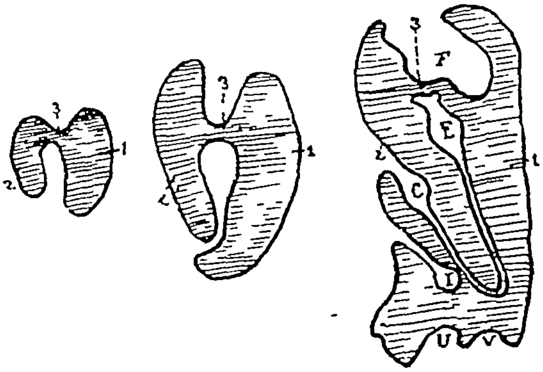

Fig 88 (after Debierre 1890 modified) represents diagrammatically the development of the greater and lesser cavities of the peritoneum. 1, greater cavity 2 lesser cavity of the peritoneum 3, hiatus Winslowii *E* stomach *F* liver *I* intestine *C*, colon *U*, uterus *V*, bladder the great omentum The view of coalescence must be based on (*a*), local peritonitis whereby the epithelium of the peritoneum is destroyed and the two bared, denuded surfaces simply unite as in any other wound, (*b*), the advocates of peritoneal coalescence must show that the epithelial cells of the serous layer are not genuine epithelial cells or that they are another structure—endothelial, (*c*), they must show that these endothelial cells are of such a character that they will coalesce and disappear in a physiologic manner, *i e*, the peritoneal surfaces are of a connective tissue type and hence a normal physiologic coalescence may arise, (*d*), such advocates must show why this "physiologic coalescence" occurs in local places in the peritoneum, as the great omentum, and not anywhere and everywhere in the peritoneum

As far as regards the first view of coalescence by local peritonitis, all agree that it is correct, that coalescence of peritoneal surfaces is an actual and frequent occurrence But the theory will not fit when it only applies to a particular locality and not to all parts of the membrane alike Why the anterior blade of the great omentum should be subject to a peritonitis and blend with the superior blade of the transverse mesocolon by peritonitis in intra-uterine life, is not tenable because, under the same circumstances any other part or the whole of the peritoneal surfaces might be endangered to peritoneal coalescence In this theory no adequate reason is offered why the great omentum alone is attacked with the process of coalescence

The second theory of coalescence comes, so far as I am aware, from the venerable pioneer, Professor His of Leipsic This theory advocates the idea that the serous epithelium is not genuine epithelium, that it is endothelium, or rather nothing but connective tissue cells Therefore as connective tissue cells it can coalesce at any other point as any other connective tissue surface If this were the case it may be asked why coalescence, especially in the great omentum and not everywhere on the serous surface, why this predilection for the great omentum and not any and all the peritoneal surface If the epithelial cell on the serous surface is only connective tissue, a person is in constant danger of having his whole peritoneal sac obliterated at any time

This theory does not explain any more than the first, its selective affinity for the great omentum to the exclusion of other serous localities So far as regards "physiologic coalescence," it does not differ from the second theory We would not know when and how it began, nor its method of progress nor when or where it would end, so that the coalescence theory has no especial favor, except a local peritonitis In that case the whole matter rests back as to what induces local peritonitis Will the passage of the right end of the bowel over the mesoduodenum create sufficient friction to arouse a (plastic) peritonitis and consequent destruction of epithelium which will be followed by cohesion of surfaces?

(*To be continued*)

Trustees of Insane Asylum to Receive No Compensation—Section 3, of chapter 330, of the Wisconsin Laws of 1889, entitled, "An act relating to the maintenance and care of the chronic insane in counties having a population of more than 100,000, and an asylum therefor," is amended by adding a provision that "such trustees shall receive no compensation"

SOCIETY PROCEEDINGS

The Ohio State Medical Society

Annual Meeting held at Columbus, May 15, 16 and 17, 1895

(*Continued from page 201*)

Second Day—Morning Session

Dr John A Thompson, of Cincinnati, Ohio, read a paper on

DEAFNESS FROM INTRANASAL DISEASE

Diseases of the ear are more intractable to treatment than those we encounter in any other department of medicine Late cases of chronic catarrhal otitis media in either of its forms, are regarded by experienced otologists as being almost hopeless by modern methods of treatment From this hopelessness arises the constant suggestion of new procedures directed to the ear itself, in the hope of at least partially restoring the function which is so important to the happiness and success in life of the individual A few observers, notably Swineburne, turning from the attempt to cure the already established condition, have sought to lessen the number of hopelessly deaf by seeking the cause, and method of prevention Swineburne examined the nose and throat carefully in a thousand cases which presented themselves at the Harlem Eye, Ear and Throat Infirmary, complaining of deafness Where deafness resulted from disease of the middle ear, his conclusions are that in 95 per cent of all cases the primary lesion is in the nose or naso-pharynx

Just how disease in these organs produces chronic inflammation in the tympanic cavity, has been a question of dispute Some experienced writers assert it is due to the direct extension of inflammation by continuity of tissue In structure, the tympanum is only one of the accessory sinuses of the nose, though it differs entirely from that organ in function Others have thought we could trace the resultant ear disease, secondary to obstructive lesions in the upper respiratory tract, to imperfect aeration of the middle ear Still other authorities have thought that the interference with the circulation in the internal and middle ear by the inflammatory and neoplastic changes in the nose or nasal pharynx, was the cause of the secondary disease It is probable that each method plays a part in the production of secondary diseases in the middle ear

While I have seen many cases where the secondary deafness could be accounted for, and the cure understood from the well-known relations of nasal and aural diseases, I have encountered others that are not susceptible of explanation by any of the known facts in rhinology or otology I wish to report three of these cases, chosen because they are dissimilar in many of their features They suggest that there is a relation not yet understood, between the healthy condition of the nose and naso-pharynx, and the sense of hearing In all of these cases there has been a serious and irremediable impairment of the organ of hearing, yet in all, the ability to hear has been greatly increased by restoring the nose and throat to their normal condition

Mrs S, aged 31 years, married when 16 years old, has suffered from diseases of the generative organs since the birth of her first child She is very nervous, weak and anemic She suffered from pains in the chest, headache, cardiac palpitation, rapid pulse and dyspepsia These symptoms could not be relieved by ordinary constitutional treatment She was referred to me by her physician, Dr W H DeWitt, for the treatment of the upper air passages, with the hope of relieving these intractable symptoms, which he believed were secondary to the local disorder

The patient had marked hypertrophic rhinitis with a deflected and thickened septum The thickening was in the right nostril There was also marked naso pharyngeal catarrh The right ear was deaf to all ordinary tests She could not hear the watch on contact She could not hear the conversational voice She could hear loud voices only as an indistinct noise She gave a history of this ear as follows seven years before, while suffering greatly from her uterine trouble, the ear became inflamed and was intensely painful for several days The drum was finally perforated, the pain diminished with the free discharge of pus from the ear She had had occasional attacks of acute suppuration in the middle ear from that time Inspection of the ear showed a cicatricial drum membrane with evidence of old perforations There was no suppuration at this time The ossicles were firmly bound together by old inflammatory adhesions The condition revealed by inspection was so bad that no attempt was made then or subsequently to improve the hearing by treatment of the ear The hypertrophic rhinitis was treated by the usual method and the spur on the septum was removed March 13, 1894 The headache and neuralgia of the chest which the patient had supposed were all due to her uterine trouble, were entirely relieved within six weeks after this operation The rapid pulse and cardiac palpitation yielded to the combined effect of the operation and heart tonics administered internally The patient began to improve in health and strength and in a short time felt better weighed more, and was better able to do her work than she had been for years About ten months after the operation, she discovered that the hearing had returned to the supposed incurably deaf right ear A careful test of this organ in April, 1895, shows that the patient is able to hear the conversational voice fairly well, and hears the watch which was not heard on contact before the operation, two inches from the ear

F J H , aged 18, had scarlatina when he was 13 years old The scarlatina was complicated by purulent otitis media in both ears The drum membrane and ossicles of the right ear were completely destroyed In the left ear three fourths of the drum membrane was destroyed and the ossicles remained bound together by cicatricial adhesions With every cold the patient caught, there would be suppuration from one or both ears I saw him first in March, 1894 At that time he heard a conversational voice one foot, could not hear a watch on contact, and could not hear a whisper at all There was no appreciable difference in the hearing powers of the two ears He was about to lose his situation as clerk, because of his inability to carry on a conversation with customers in the store

Examination of the nose and throat showed hypertrophic rhinitis and a large spur on the septum in the left nostril There was a complicating naso pharyngeal catarrh After treating the acute inflammation that was present when I saw him, for a few days, I removed the spur and cauterized the hypertrophied turbinated bodies so as to give him free breathing room through the nose The left ear was suppurating when I first saw him, but this suppuration readily yielded to the dry treatment The patient was under treatment six weeks and was dismissed with the ability to hear a whisper three feet and to distinguish ordinary conversation so readily that he still retains his position as clerk Dec 1, 1894, he caught a severe cold and with the resultant swelling and inflammation of the nose and throat, his hearing became again seriously impaired Ten days of local treatment cured this attack, and with the return of the nose to the normal condition, the hearing distance for the whispered voice again became three feet for either ear

Mrs F L J , aged 35, has been deaf from childhood I can get no distinct history of the cause of this deafness She had repeated attacks of acute purulent otitis In her earlier years she was treated by a number of good otologists who succeeded in checking the suppuration, but did not prevent the total loss of hearing power in the right ear She had been constantly under the care of a competent man for three years before I saw her She had visited him once or twice a week all this time to have the left ear inflated by the Politzer method This inflation gave temporary relief from the tinnitus aurium and improved the hearing temporarily In spite of this treatment, the deafness was progressive and at the end of the three years she was worse than at the beginning of this period. Examination of the ears showed the right ear with only a perception of loud sounds Inspection of the drum showed only a mass of cicatricial tissue, through which nothing could be seen to throw any light on the condition of the middle ear The left ear showed a badly retracted drum membrane with cicatrices where old perforations had healed Loud voice heard only one foot, watch not at all, in left ear Examination of the nose showed a bad hypertrophic rhinitis, and in the right nostril at the junction of the perpendicular plate of the ethmoid with the triangular cartilage, there was an enchondroma with a broad base nearly an inch in diameter and so thick that it completely filled the upper and anterior portion of the right nostril

As all known methods of direct treatment had failed to benefit the deafness, I decided to remove the enchondroma and to restore the lumen of the nostril by cauterization of the hypertrophied tissue in the turbinated bodies The operation was made under chloroform Oct 11, 1894 I cut the nasal branch of the ophthalmic artery in the first incision for the removal of the tumor This complicated very much an operation always difficult to perform on account of the free bleeding hiding the field of operation I removed the tumor as rapidly as possible and packed the nose with cotton saturated with McKenzie's styptic solution Recovery was further complicated by an attack of follicular tonsillitis which began three days after the operation The patient was already weakened from loss of blood and from the shock, so the attack of tonsillitis was unusually severe and prolonged The immediate effect upon the hearing was disastrous As soon as the patient was able to resume her visits to the office, the hypertrophied tissue in the turbinated bodies was destroyed by the galvano-cautery as rapidly as this could be done without exciting severe inflammation The patient remained under treatment for four months and was dismissed with hearing distance for the watch, left ear of nine inches She hears the ordinary conversational voice with ease Up to the present the improvement has continued, and I have no doubt the hearing will be better a year from now than it is to-day

These three cases present a few similar features There was in all marked nasal obstruction from hypertrophy of the normal tissues and from the growth of abnormal structures The condition of the ears in all was such as to offer no hope of cure by treatment of the ear itself All were benefited so they could hear ordinary conversation, the best test of hearing power, by treatment of the nose

In the first case reported the ear was never treated, either before or after the operation on the nose, yet as a result of this operation, hearing was restored to an ear which to all appearance was hopelessly deaf

In the third case, the patient had been under the constant care of competent men from childhood to mature life In spite of this care, the hearing power was entirely lost in one ear and so far diminished in the other ear that common conversation could not be heard Yet, in this case, the hearing power is restored to the ear by restoring the normal lumen of the nostrils During the time she was my patient, the ear received no treatment It might be said the result in these cases was due to the fact that normal respiration and aeration of the middle ear through the Eustachian tube was restored While this is a possible explanation, I do not believe it to be the true one In the third case the Eustachian tube had been kept open by constant treatment, yet the deafness was increasing The tube remaining open, no attention was paid to it while I was treating the nose, yet there was a remarkable gain in hearing power It certainly will not apply to the second case, where in one ear there was no drum membrane at all and in the other ear only a remnant The recurrence of the deafness months afterward when the nose became inflamed and swollen, and the prompt restoration of good hearing power by treatment of the nose, is an additional demonstration of the controlling influence that, in this case at least, the nose has, on the power of hearing

While I do not pretend to explain the influence which brought about the deafness or the cure in these cases, there is a practical conclusion to be drawn, upon which we can act, even if we do not understand thoroughly the theory or the principle on which our action is based

This practical deduction is that no case of supposed incurable deafness is really so, unless the nose and naso-pharynx have been examined and treated, if necessary, by a competent rhinologist

Dr A H Hewetson, of St Clairsville, Ohio, read a paper on

COMPLICATIONS AND SEQUELÆ OF EPIDEMIC INFLUENZA (LA GRIPPE), AND THEIR PROPHYLAXIS

ABSTRACT

Of complications, undoubtedly pneumonia and bronchitis are more often present, but there is a dispute among observers as to which of these occurs more frequently A recent French writer believes that the complex pathology of these chest complications is explained by the presence of different microbes in different forms There are thus congestive, inflammatory and suppurative pneumonias, these produced by pneumococci and those caused by streptococci

It is an admitted fact that the virulence of microörganisms is raised to the highest degree in all forms of influenza and its complications

The important duty is to remember the depressing nature of the original affection Especially remember the importance of sustaining and energizing the cardiac and respiratory nerves In my limited experience I have found nothing that can compare with strychnia and digitalis, full doses of digitalis and much larger than the ordinary dose of strychnia We are too timid in our dosage of strychnia In those cases where the influenza is still active, I add to the above, fl ext aconite in small doses This may appear heterodox, but I believe it to be a sensible combination Phenacetin and its companions of the coal-oil group, with codein, may be continued in some cases from the original influenza to the complicating pneumonia and bronchitis An early recourse should be had to cod-liver oil and syrup of hypophosphites or similar tonic remedies

Pleuritis is a complication which is not very frequent, nor is there any particular management required except to remember the nature of the previous trouble A more frequent complication, as well as more troublesome, is pleurodynia In our part of the State it has been of very frequent occurrence the past season The pain is often severe, resembling pleuritis or pleuro pneumonia Pressure along the course of the intercostal nerve will promptly locate the trouble It is usually located on the left side Great alarm frequently results from the feeling that the heart is or would be involved

At certain times in some epidemics, rheumatism is a complication Disorders of digestion are frequently complications, they constitute a very troublesome form of the disease Fortunately, however, the stomach is, as a rule, only functionally affected, the disturbance of digestion being due largely to the effects of the general disease upon the nerve centers

Of complications we must view those having a nerve origin as the most important and perplexing Post-mortem examination of a patient who had died of influenza, revealed serious injury to the brain Althans, of London, refers to the results of a series of eleven post-mortem examinations In every case intense hyperemia of the pia mater at the base of the brain was present The arteries were distended and the consistence of the brain and spinal cord was increased In two cases by Fürbringer, the autopsy revealed capillary emboli and hemorrhagic foci in the lobes of both hemispheres, involving the white and gray substance Mills, of Philadelphia, classifies the organic nervous lesions occurring in the wake of influenza in the following order, neuritis, meningitis, myelitis and cerebritis He considers no single affection so common as neuritis, occurring in every form as to location and diffusion By some authors, meningitis is said to cause more deaths in influenza than heart failure

To name, number, classify and explain the nervous consequences of la grippe is a task too great to be undertaken While their number and variety is legion, still we believe a careful consideration will show that they result from the exhaustion of the power of the nerve centers, due to the effect of the essential poison upon nerve structure Cephalalgia, trigeminal neuralgia, insomnia, loss of memory, cardiac weakness, indigestion—in a word, functional derangement of all the organs, can in a vast majority of cases be traced back to a neurotic origin If a careful examination does not reveal any central cause, then the task may be wonderfully simplified by regarding all as forms of exhausted nerve force or vital power I do not believe we can do better than place our main reliance upon our friends of other years, strychnia, iron, quinin, cod-liver oil and phosphates These cases in their multitudinous characters will afford opportunity for the largest experience There is change of location, out-door life and exercise, there is the rest treatment, massage and electricity

I wish to name one simple remedy I have found of great benefit, especially in the case of patients in advanced life when the waste products are becoming more and more retained, the coatings of the vessels filling gradually, in these cases I urge the patients to use hot water freely—to drink all the stomach will retain It is frequently surprising how soon improvement appears Having applied the teaching of modern scientific hygiene in an intelligent manner to the case, and given careful attention to the mucous lining of the nose and throat, the medical attendant has about performed his duty For a scientific prophylaxis we must look to the faithful pathologist and bacteriologist

DISCUSSION

Dr E B Fullerton, of Columbus—I think there is no doubt as to microbic origin of influenza There is not that proof which would have been satisfactory some years ago, but there is proof, that, after the discoveries or proofs in regard to the bacillus tuberculosis, is conclusive I think to reasonable men There have been a number of experimenters in regard to this You all have knowledge of the various experimenters, from Pfeiffer, Kitasato, Canon, onward

There are some very interesting allied diseases Among animals, the epizootic must have a microbic origin also The epizootic sometimes attacks men Influenza, I believe never attacks animals in the ordinary state, although it may be communicated A remark about the character of the condition in the different years of its prevalence in this epidemic, seems to me not out of place I should say the typical epidemic we had in Ohio was in 1889–90 Then we had the typical season, and I think since then the disease has been more likely not to be typical During the last winter I have rarely seen a typical case of grip There have been more mild cases, which would pass almost for bad colds

In regard to complications—and that is the matter to which really this discussion should be limited—I think the Doctor has spoken of the most of them One of the most obstinate cases of brachyalgia I have ever seen was undoubtedly of this origin I have seen several cases of sciatica that were unusually obstinate as the result of this disease I have seen one case of cruralgia, also In regard to the treatment of the complications and sequelæ, this of course merges into the treatment of the disease

As to the treatment of grip There has been one treatment I adopted in the typical cases in the beginning that I have seen very little of in the journals, and have heard only little of in discussions, and that is the treatment by the tincture of aconite, one or two drops every hour This will quiet the fever and the pulse and relieve the catarrhal conditions about as much as any of the new remedies Dr Whittaker, in his very valuable work on the "Practice of Medicine," mentions salipyrin as almost a specific Whether others count it so, I do not know I know in my practice I have found it to have no more prompt control than other remedies commonly used, phenacetin, the so-called antifebrin, acetanilin, aconite and the bromids And, gentlemen, there is no remedy like full doses of the bromids Where the patient is complaining of pain, interfering with his rest, full doses, 30 grains, of the bromid of potassium will answer like a charm

Dr Caldwell—The most disastrous complication I have had to deal with is the tendency of old people to take on degenerative processes Weakness comes on from the exhaustion of the disease This has not occurred in the last year or two that we have been having the grip And I would rather agree with the last speaker, it has become rather a popular name, and as physicians we are prone to use the term a little recklessly

Dr North—I have seen within the last few years quite a number of cases of influenza, that is, the form of grip called influenza, attacking the respiratory tract I believe this disease to be of microbic origin It has become quite a fad with the profession I do not know how we would get along without the grip We are in the habit of calling everything we do not understand, 'la grippe" Now I believe it arises from the presence of a microörganism, and this microörganism develops or generates a ptomaine, and this ptomaine enters the system and affects the ganglionic system Why it affects one ganglionic system in one person and not in another, I can not explain Sometimes it affects the celiac axis and sometimes other ganglia I want to protest against the use of quinin in this influenza in any form The paper read gave an account of post-mortem examinations, where hyperemia and inflammation had taken place in the membranes of the brain I believe I have treated a number of cases of deafness, due to quinin given in influenza It is one medicine that should never be given in influenza I am a great friend of quinin, but would not use it in influenza It causes hyperemia and inflammation of the brain If you study the cases which go on to insanity, you will find the majority of them have been treated with quinin I have used in these cases a combination of salol and phenacetin It has acted almost as a specific I combine two and a half grains of salol with an equal quantity of phenacetin If you go into the decomposition of salol and phenacetin you will find a physiologic reason for its action You will find some of these patients blue from paralysis of the heart, due to the action of coal-tar products But with the quantity in these pills, it takes only a few hours to get good results

(To be continued)

Chicago Pathological Society

(Continued from page 111)

Regular Meeting, May 18, 1895

Dr Walter Van Hook, President, in the chair

Dr Arthur R Edwards read the first paper on the program entitled

REPORT OF CASE OF CHRONIC FIBROUS MYOCARDITIS PRODUCING A RELATIVE AORTIC REGURGITATION

The patient was 54 years of age, drank hard and had rheumatism For four weeks he had suffered from dyspnea, edema tympany anorexia, coughing and occasional vomiting On examination, there was orthopnea, ascites and anasarca The heart was enlarged, especially the left ventricle, to which were added the signs of hypertrophy of the same chamber, as evidenced by the quick pulse and heaving apex beat The physical findings were those of aortic regurgitation, weak second aortic tone, soft protracted blowing, diastolic aortic murmur heard over the second left intercostal space near the sternum, the alterations in the left chamber as already mentioned, and appropriate sphygmographic and auscultatory arterial phenomena While the clinical diagnosis was aortic insufficiency, the autopsy disclosed an extensive fibrous myocarditis with secondary ventricular hypertrophy and dilatation The cause of the myocarditis was atheroma of the coronary arteries and coronary thrombosis Relative insufficiency is very rare and myocarditis has never been described as one of its causes A complete review of the literature of this variety of relative insufficiency gave but twenty-five cases

Two main etiologic agents exist 1, ventricular dilatation, 2, dilatation of the aorta Ventricular dilatation producing relative aortic leakage has resulted from muscular exertion, myocarditis, idiopathic cardiac hypertrophy, arterio-sclerosis, aortic atheroma, increased arterial tension, synechia cordis, and parietal endocarditis Aortic dilatation is caused by atheroma, aneurysm, trauma and acute inflammation

The clinical diagnosis is involved Groedel's "distance" murmur and percussion of a dilated arcus ascendens have made diagnosis *intra vitam* possible Accidental venous diastolic murmurs may complicate the diagnosis Murmurs, even diastolic, do not constitute a valvular lesion Renvers has demonstrated the intimate connection between the walls of the left ventricle, the auriculo-ventricular ring and aortic valves, whereby ventricular dilatation may render the aortic valves incompetent

DISCUSSION

Dr. Jos M Patton—This is certainly a very interesting subject, because it brings before us the diseases of the heart which are very difficult of recognition in a clinical way Fraentzel congratulated the profession a year ago on the fact that diagnoses of myocarditis were much less frequently made than formerly Virchow has always maintained that myocarditis was a rare affection, and has always been inclined to deprecate the freedom with which this diagnosis was made Certainly, so far as clinical signs are concerned it is very difficult to make a diagnosis of myocarditis There are four forms of myocarditis which it is claimed can be observed clinically with more or less distinctness, viz the acute circumscribed myocarditis, acute diffused myocarditis, chronic circumscribed myocarditis, and chronic diffused myocarditis The two first mentioned can probably never be diagnosed of themselves, but may be suspected on account of the associated conditions with which they may appear The third mentioned might be diagnosed by a physical examination in case of a localized area of degeneration, where resultant dilatation from the area would present in such a way as to be perceived by palpation or percussion (a so called cardiac aneurysm), otherwise it could not be diagnosed The fourth is the most interesting one, because we will meet with it as we become acquainted with these ill defined cardiac diseases Chronic fibrous myocarditis occurs most often on the left side of the heart It is associated with many other conditions of the vessels and of the other internal organs It may affect small portions of the cardiac muscle, or the cardiac muscle may be excessively changed by the aggregation of these cicatricial patches and deposits, as described by Dr Edwards The clinical interest centers in our ability to formulate some class of symptoms, by which we could deduct this condition in life There are no symptoms which are in any degree pathognomonic to chronic myocarditis The symptoms which do present are essentially those of either uncompensated valvular lesion, or of failure of the lesser circulation The symptoms of marked ataxia of the muscle are the same They may take the form of severe dyspnea, or there may be symptoms of pulmonary infarction or edema The dyspnea may simulate that which accompanies advanced sclerosis of the peripheral vessels, but even if it is associated with infarction or edema, the condition is transient, and it is doubtful what part this might play in the production of symptoms The physical examination of the heart will reveal nothing, except the enlargement of the left cavity in the earlier stages of the disease, and that dilatation may disappear later on Very often there is marked enlargement, as in the case presented by Dr Edwards There is one symptom that is practically always present, and that is cardiac arythmia, very often amounting to the condition known as tremor cordis, with a pulse of 200 or upward, the pulsations being almost inappreciable, but then this condition is associated with so many others that it is difficult to place the responsibility for its occurrence The fact remains that a rapid and arythmic heart is an almost constant clinical sign of chronic myocarditis Then again, there is a distinctive feature in regard to the character of the heart sounds The second sound is usually weak, and that is somewhat indicative, because in a great many conditions of weakened heart muscle we have a relatively louder sound as compared with the bulk—the volume—of the first sound, whereas, in advanced conditions of chronic myocarditis the second sound is usually weak The principal feature in regard to the sounds is the variation that occurs in the character of the tones, a few tones being loud, sharp and snappy, and then a few following being weak and indistinct, a regular tic tac, there being a greater variation of the force and volume of the tones than in any other condition of which I am aware The report is certainly very interesting, particularly so because it is by just such clinical histories, accompanied by pathologic specimens, that we are to learn more of these very imperfectly defined cases, as we understand them at present

Dr J B Herrick—One of the lessons that is brought home to me by the very interesting and very instructive paper of Dr Edwards, is the lesson that has been impressed upon me more and more, as I have studied heart cases, particularly in the light of autopsies—and that is the lesson that the murmur we hear from the heart does not always tell us the condition of the valve over which we hear the murmur

Fraentzel, from whom Dr Patton has quoted, makes the statement that of the physical signs of the heart that lead us to diagnose valvular disease, the murmur is the least important I am sure that we have, all of us, more than once been deceived by an anemic murmur It seems to me that we do not pay enough attention to the other evidences of cardiac disease that are really open to examination For instance, the very inspection of a patient will often enable us to make a fairly accurate diagnosis We can, by inspection and palpation, alone, almost make an accurate diagnosis of aortic regurgitation We have in such cases diffuse apex-beat with heaving impulse, tortuous, pulsating temporal and brachial arteries, and we have the peculiar water-hammer pulse of aortic insufficiency We can find, too, the tones that are peculiar to the latter lesion in the peripheral vessels, so that we could, without even listening to the heart, make a diagnosis of that variety of valvular disease What Dr Patton has said with regard to the second tone of the heart is, I think, worth a great deal We frequently make mistakes because we do not pay enough attention to the condition of the second tone We all know how valuable the second aortic tone is in cases of cardiac hypertrophy due to renal diseases, and, again, the value of the second tone as an aid in estimating the muscular tone of the heart itself is not to be underestimated It seems to me then, that one of the lessons of this case is that we should examine, not alone for the murmur of the heart, but examine as well for the enlargement of the heart examine the second tones, the first tone, the peripheral arteries, in a word, make a complete examination and not rest entirely upon a discovery of a murmur I do not think it possible in this case to have made the diagnosis during life All the typical signs of aortic insufficiency were present, no cardiac irregularity to suggest myocardial trouble But the lesson remains that every cardiac murmur is to be considered in the light of other cardiac findings before an estimate is to be made of its importance as an evidence of primary valvular disease

Dr A R Edwards, in closing said One thing is suggested to me by what was said about increased pulse rate In myocarditis the pulse may be increased, of normal frequency, and there is still another group in which there is a decreased rhythm In this case we watched throughout for any irregularity and it never appeared in the clinical course of the disease Regarding the value of murmurs it is one of the four cardinal rules of Fraentzel that a murmur does not establish a lesion at a valve, and that applies most especially to systolic murmurs, and the converse has usually been taken as true of diastolic murmurs, the latter always indicating a valvular lesion I omitted in reading the paper, on account of its length, to state that diastolic murmurs may occur, due to inorganic causes They have been demonstrated to be due to venous bruits in the jugular vein, in the cavæ superior and inferior, and furthermore they have been found in the cases which I have cited, nearly all of which have been diagnosed as organic lesions during life As to the specimen, there is nothing on the slides, as they are shown, that are not found in specimens of myocarditis from other causes—simply, the broad masses of cicatricial tissue, some long cells, and few foci of round cells

Dr T A Olney, of Chicago, read

A REPORT OF A CASE OF AMŒBIC LIVER ABSCESS

Patient was admitted to the medical ward, where a diagnosis of liver abscess was made This was confirmed by exploratory punctures with an aspirating needle, following his transference to the surgical ward Drainage was secured by a rubber tube inserted in the posterior axillary line at the seventh rib, and a considerable amount of yellowish pus discharged Death occurred in a few days following a further exploration by puncture of liver, dullness in front and behind having failed to locate other abscesses At the autopsy several irregular large abscess cavities were found, one of these occupying the posterior and upper part of the left lobe—which the drainage had not reached These were all surrounded by a marked zone of necrotic liver tissue and contained thick grayish pus which contained chocolate colored lumps and granular necrotic liver tissue In the caput coli two or three small ulcers were found There was no history of dysentery

DISCUSSION

Dr A R Edwards—I saw this case on the medical before it went to the surgical side, and afterward with Dr Olney on the surgical side When the pus was drawn from the thorax with the needle, the color of the pus was invariably white and very thin There was none of the chocolate color in that cavity, at least And then when it was transferred to the surgical side after free drainage, and the symptoms of sepsis were not abated, Dr Olney put needles into the liver The needles were inserted into the area of dullness beneath the hypochondrium on the right side, and once only was pus obtained in something like thirteen punctures The pus in this instance was quite creamy The interesting point clinically, is that the largest abscess of all was concealed by the peritoneal adhesions which bound the lower surface of the left lobe of the liver to the upper surface of the stomach, thereby entirely concealing a large abscess by the gastric tympany If we had pushed the needle through the tympany, we would have reached the liver abscess which caused his death There were at the post-mortem, other small abscesses, too small for clinical detection

Dr E R LeCount—I happened to see the autopsy conducted in this case, and it is interesting from several standpoints First, the small amount of intestinal involvement Only three ulcers were found in the caput coli, and those were very small The amount of liver involvement was very large Another interesting point in connection with cases of this character is that, as a rule, the pus is chocolate colored, due to the necrotic liver substance contained in the pus Another interesting feature—the pus was brought into the laboratory from the morgue, placed on a slide and a drop of warm salt solution added, when amœbæ with amœboid movements were seen by a number—Dr Weaver, Dr Williams, Bishop and myself, and some of the assistants As soon as it was found that the amœbæ were active, they were fixed with 2 per cent Fleming's solution, and in this way they were positively differentiated from the necrotic liver cells

In the examination of pus from the liver, while the patient is still living, it is frequently very difficult to distinguish possible amœbæ from necrotic liver cells, on account of the vacuoles that will be present in both of them, the amœbæ being frequently dead as well as the liver cells A 1 per cent osmic acid solution was used to differentiate fat from vacuoles of the amœbæ and fulfilled expectations Notwithstanding the small amount of mucous membrane involvement of the colon, the amœbæ coli were very numerous in the mucous membrane and were found down between the mucous follicles and beneath the mucous follicles lying upon the muscularis mucosæ

Dr Jas W Walker presented specimens from an ancient empyema, and made the following remarks I regret that I can do nothing more than offer these specimens I know nothing of the history of the patient but that he was a man of 60 years, admitted to the hospital for an operation on a neoplasm of the right eyelid which was to be performed to-day He was in the hospital a few days and died suddenly on Saturday Unfortunately, no careful history of the patient has been recorded, so I can only show you the result of the post-mortem made this morning The neoplasm of the right lower eyelid, growing for one year on the site of a pigmented mole, is presumably an epithelioma

In the ileo cecal valve (the rest of the intestinal canal was negative) was a small tumor projecting into the lumen of the valve On section it has the appearance of a fibroma

The heart is enlarged It measures over 12 cm for the left ventricle, and the right ventricle 10 cm There is a thickening of the aortic valve, but no deformity There is also myocarditis of the columnæ carnæ of the left ventricle, and most interesting of all is the very marked atheromatous place in the mitral valves, and a few at the beginning of the aorta The only clinical record is the fact that there was a mitral systolic murmur

In the left chest the lung was negative, except that the pleura immediately over the apex was markedly thickened The pleura was much thickened and there were white scars on the pleural surface of the same lung, but the lung substance was entirely negative The apex of the right lung is quite firm, just as firm as in pneumonia I have not been able to find anything like tuberculosis in it but it is perfectly solid, and seems to be an old unresolved pneumonia The pleura was not adherent to the apex, and the lower part of the lungs was normal In the right pleural cavity, in the lower half of it, laterally and posteriorly and adhering to the diaphragm below, was a bulging mass covered by a yellowish membrane resembling very much the inside of the aorta calcareous in consistency in many places, with pin point nodules which grated under the finger, and slightly fluctuating on pressure There was nothing abnormal in the appearance of the ribs on that side of the chest The covering was so firm that fluctuation was quite obscure On cutting through it a thick greenish-black fluid oozed through the opening, and on cutting into it more deeply I found this mass It has a clayey appearance, it is brittle like a piece of blue earth, it has no odor whatever, and the under surface of this is the part that was projecting toward the pleural cavity I think this clay like material was between the two surfaces of thickened pleura I would suggest that an old empyema was the disease leading to the conditions found The ribs were sufficiently soft to allow my cutting through them with an ordinary morgue knife

The stomach is not specially interesting The gall bladder contained thirty-eight small gall stones The kidneys were both quite small, and the markings of the cortex almost absent, glomeruli distinct, proportion of pyramids being 1 to 5 Spleen small in size, firm in consistency, shows nothing in cut section but its surface had a corrugated, alligator skin appearance and shows a number of pin-head size, white patches The liver in places was a cloudy gray color, with entire absence of markings of the lobules around the periphery of the convexity, distinct nutmeg appearance is very sharply defined

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Uterine Flatus—According to the *Medical Press and Circular* July 26, an interesting instance of "phantom tumor" of the uterus due to tympanitis of that organ, has been reported by Dr Lichtenstein, of Liegnitz On account of a chronic metritis, a patient was successfully treated by tamponment with iodoform gauze A considerable time afterward she suffered from violent pains in the abdomen On examination the abdomen was found much distended, and the uterus three finger breadths above the umbilicus On examining with the sound it passed into a large empty cavity, and air escaped out of the uterus with a distinct pop The patient was frequently troubled in this way, the uterine tympany always coming on when the stomach or bowels were disordered A few days after the attack described there was still pain at the side of the uterus Massage and rhubarb and charcoal still further improved the condition

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SATURDAY AUGUST 24, 1895

PATHOGENY OF DERMOID CYSTS

In *L'Union Médicale*, July 13, ult , is an excellent article by M Pierre Delbet, the Parisian surgeon, giving a resumé of the pathogeny of heterotopic tumors (dermoid cysts), which is abstracted from the large work on clinical and operative surgery by Professor Le Dentu and the same author The oldest theory seems to be that of Geoffrey Saint-Hilaire—that of diplogenesis by inclusion This author arranged these tumors in a long series, beginning with the most simple forms, as those of the eyebrow, and going through the more complex varieties in the ovary and sacro-coccygeal region, and ending with parasitic and autositic monsters In other words, he believed that simple dermoid cysts are to be considered as the "prodigiously incompletely developed" remains of a primitively distinct individual This theory was strongly combated by Lebert and Broca The latter pointed out that all dermoid cysts do not contain authentic fetal *débris*, while others contain too much,—as those with 300 teeth, etc

Again, it is difficult to comprehend how one embryo can penetrate the abdomen of another, to lodge, for instance, in the ovary Lebert has shown that it is not rare to find dermoids in both ovaries, which, if we adhere to Saint Hilaire's theory, necessitates believing that two distinct embryos have penetrated a third "It takes," says Lannelongue, "a great effort of the imagination and much good faith to recognize the representative of a distinct individual in a simple dermoid, a simple small sac formed by the skin, and often without papillæ or sudoriparous glands " This theory, however, offers the only satisfactory explanation of these tumors of the jaws, the sacro-coccygeal region and the scrotum where we find fetal *débris*

Lebert, in his theory of plastic heterotopics, has taken a diametrically opposite stand to that of Saint-Hilaire He compares dermoids with other neoplasms and admits their autogenous and spontaneous formation They develop by virtue of "a particular aberration of nutrition " This author did not extend his theory to the more complicated forms and, as Delbet remarks, it is not worthy of discussion

The theory of inclosure of Remak and Verneuil supposes that a part of the integument is nipped off during growth and buried in the surrounding tissues where it continues to develop This theory readily explains the formation of simple cysts, moreover, these are always observed in regions with a complicated development—around the branchial clefts, orbits, in the sternal, abdominal and perineal regions, where the ventral and dorsal plates fuse It may be objected that the structure of these cyst walls is not the same as that of the skin, for the papillæ and sweat-glands are generally wanting, but these two structures are precisely those parts of the external tegument which are the last to appear This hypothesis is utterly inadequate to solve the problems of the more complex tumors

Delbet dismisses the theory of extra-uterine pregnancy, which presumes that these tumors are the result of extra uterine fetation, with the remark that it will hardly answer for those in the eyebrow and the testicle, and, moreover, it does not suffice for those in the ovary which are to be seen in the newly-born and in virgins

Bard has proposed a peculiarly unique theory, that of "nodal cells " This author is a great partisan of the absolute nature of the cells, but this must evidently be primitive The ovule and the first few cells developed from it have the property of giving rise to daughter cells, differing from the mother-cell and from each other These first cells must, then, be extremely complex, for they may give rise to the most diverse tissues These are the cells which he calls nodal cells With increasing stages of development these cells become less complex and finally they become fixed and incapable of producing cells differing in character from themselves But, according to Bard, some of these nodal cells may persist in the adult tissues and it is the proliferation of these cells which forms dermoid cysts Delbet remarks that while the contemplation of this theory affords a certain sense of satisfaction, the presence of these nodal cells in adult tissues is absolutely undemonstrable

The theory of parthenogenesis next claims attention This, as is generally known, is the development of an embryo from the ovule without the intervention of the male element This form of asexual generation has been shown in some of the lower animals (parthenopinea) where it produces normal individuals Buffon and Saint-Hilaire believed that possibly this might occur accidentally in the higher animals and give rise to rudimentary monstrous individuals

Repin and Matthias Duval attributed the formation of ovarian dermoid cysts to parthenogenesis The former author concludes that all dermoid ovarian cysts contain vestiges of organs and that they represent imperfect beings which can only be of ovarian origin The possibility of segmentation of a non-fecundated egg has already been shown Duval says we may even say that parthenogenetic segmentation is an ordinary, almost normal, process, but it is quickly arrested by fatty degeneration and does not proceed as far as the formation of a blastoderm, much less that of organs however rudimentary Steinlin has seen a very young dermoid, the size of a hemp seed, in the interior of a Graafian follicle While this parthenogenetic origin is not directly demonstrated it is very likely It has two facts in its favor —the frequent segmentation of non-fecundated ovules and the intra-follicular seat of these cysts in their beginning

Delbet sums up the evidence as follows the widely different characters which dermoid cysts present and the nearly constant relation between their location and their degree of complexity lead us to believe that they are not of the same nature and are due to different pathogenic conditions It is very probable that the simple dermoids are produced by inclosure, while the complex cysts, containing fetal *débris*, have two different pathogenic causes according to their situation—first, those which we may call external, in the jaws, sacro-coccygeal, perineal and scrotal regions, are due to diplogenesis, they are double monsters, joined to their hosts like parasites, these double monsters are considered, since the researches of Fol, to be due to polyspermia, that is, the penetration of several spermatozoa into the same ovule, in other words, diplogenesis is uniovular Second, the complex tumors which we may call visceral, those of the ovary or testicle, are, on the contrary, very probably due to parthenogenesis

Is this theory satisfactory? Some details are still obscure, especially those of the mediastinum Most of these tumors are simple cysts which may be explained by inclusions, found at the expense of the front gut or by invagination of the bronchial tree, but there are complex cysts, also, such as that reported by Gordon,[1] which contained bones and seven teeth The causes of this almost unique case are still unknown

SIMULATION OF INSANITY

The case reported in the daily press, of a leading German actor, who, after repeated impersonations of the character of a lunatic became himself insane, is one of some psychologic and medico-legal interest It is not altogether unique, the same story has been told before, and a somewhat parallel case in this country has been published recently, but it is worthy of attention as evidence that continuous dwelling on, and practical adoption of insane acts and ideas, even though with full consciousness of their abnormal nature, has a naturally bad effect upon the mental health It is probable, it is true, that most of those who thus succumb to insanity in this way, were already somewhat predisposed to it, but absolute mental equipoise can be claimed by no one, and the danger is not to be disregarded even by those who are best equipped and fortified mentally

In a medico-legal point of view it has some importance as bearing on the question of simulation Some high authorities, among whom we may count Schuele and Sander, assert that protracted simulation is itself pathologic, or, at least, that it becomes so after long continuance Such instances as the one referred to would seem to support this view, and it has in its favor the well-known psychologic phenomenon expressed in the common saying that habit becomes a second nature The actor who tries to realize his conception of the character he represents, is moreover, in far less danger than the man who for a purpose endeavors to continually act as a lunatic His conception may be an imperfect one and his attempt clumsy in execution, but however this may be, he runs a risk of sooner or later making it natural enough if he persists

On the other hand, actual simulation of insanity does not exclude the possibility of co- and preexisting mental disease This has been repeatedly demonstrated, notably by Kiernan, Hughes and others in this country, as well as abroad, and marked cases are within the experience and recollection of most observing asylum physicians of long experience This point is one that ought to be well considered by jurists, and, with the other, may not infrequently have important bearings in cases before the courts

THE NEW ILLINOIS PHARMACY LAW

Illinois has what is practically a new pharmacy law It purports to be only the old one amended, but the differences are more numerous and striking than the samenesses The indications are strong that it was prepared and passed for the benefit of the pharmaceutical profession rather than the general public The latter will undoubtedly indirectly gain by it on some points, but only incidentally, and not without loss For what good it contains, the Governor apparently did not care to veto it, but let it become a law without his signature

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[1] Med Chir Trans, XIII, p 18

Its scope can be somewhat judged of from the section headings, which are as follows "None but registered pharmacists to dispense, etc Who may be employed in drug store, Meaning of the words "drug store" or "pharmacy," Registered pharmacists, Who may be registered pharmacists, Assistant registered pharmacist—who may be, Permits to persons in villages, Duty of registered pharmacist, Annual registration—fee—certificate to be posted, Board of pharmacy—how appointed, Organization of board—duties of officer—place of meetings, Salary of officers—report Label with name of article—penalty, False representation to procure registration—penalty, Adulteration—penalty for—expert—board to prosecute, Suits for penalties "

To begin with, this law seeks by multiplying descriptive terms and incorporating a definition to specifically cover, not only pharmacies and stores, but also dispensaries, "drug stores," apothecary shops and any "store, shop or other place of business where drugs, medicines or poisons are compounded, dispensed or sold at retail" However, the board of pharmacy is authorized, in its discretion, to issue permits to persons, firms, or corporations engaged in business in villages or other localities, empowering them to sell the usual domestic remedies and proprietary medicines under such restrictions as the board may deem proper, such permits to specifically state just what the holders thereof are allowed to sell

But nothing in this act is to prevent any person or persons owning a drug store or pharmacy who shall employ and place in active and personal charge of the same, a registered pharmacist, nor interfere with the exclusively wholesale business of any "wholesale druggist," whereas it was before of "any dealers"

Neither is it, any more than did the old law, to apply to or in any manner interfere with the "practice" of any physician or prevent him from supplying to his patients such articles as may seem to him proper, substituting, as above, the word "practice" for "business" It also omits the proviso in this connection of the former act "that no part of this section shall be so construed as to give the right to any physician to furnish any intoxicating liquor as a beverage, on prescription or otherwise"

Not only must appointees to the board of pharmacy be such "competent registered pharmacists in the State, as have had ten years' practical experience in the dispensing of physicians' prescriptions," as heretofore, but they must be persons "who are actively engaged in the practice of their profession"

Other changes require that registered pharmacists must be 21 years of age, prescribe certain qualifications for them make the original registration fee in all cases $5 and the subsequent annual fee not to exceed $1 50 fix the cost of "permits" at $1 in the first instance and 50 cents a year thereafter, impose upon registered pharmacists who take into their employ apprentices, to report to the board such facts regarding their schooling and preliminary qualifications as the board may require, empower the board of pharmacy to refuse registration or suspend the certificates of registered pharmacists, or assistant pharmacists, who are proved to be so addicted to the excessive use of stimulants or narcotics as to render them unsafe to handle or sell drugs, medicines and poisons, require the conspicuous exposure of certificates, and display over the door or department the name of the registered pharmacist who conducts the drug store or pharmacy

What concerns the public yet more, and is to be deplored, is the change with respect to the selling of poisons The new law on this point, in full is "No person shall sell at retail any drug, medicine or poison without affixing to the box, bottle, vessel or package containing the same a label bearing the name of the article distinctly shown, with the name and place of business of the registered pharmacist from whom the article was obtained *Provided*, That nothing herein contained shall apply to the dispensing of physicians' prescriptions Any person failing to comply with the requirements of this section shall be liable to a penalty of $5 for each and every such offense"

This, it will be readily seen, opens the gates wide for careless and unscrupulous dispensers and criminal and suicidally disposed purchasers—if it is not a broad invitation to crime and self destruction What protection is there in a registered pharmacist's name affixed as prescribed, when he is neither required to exercise caution in making sales of deadly drugs, nor to mark same "poison?" The old law was infinitely better in this respect It required all this and the distinctly marking of poisons as such, beside forbidding the delivery of the commonly recognized poisons to any person under 15 years of age, or to any person, without the seller satisfying himself that such poison was to be used for a legitimate purpose, although the penalty for a violation thereof was fixed at the ridiculously small sum of $5 for each offense

Comparison with the Wisconsin Legislature at its last session, when it revised the law of that State on this subject, is to the decided credit of that State It requires paris green to be marked "Paris Green, Poison," and has added to the list of specially proscribed articles oil of savin, oil of tansy, oil of cloves, phosphorus, sulphuric ether, or any mixture containing any of the specified poisons or of any combination of them sufficient to kill a person taking the same When lawfully sold, a label bearing the name "Poison" distinctly shown, together with the name and place of business of the seller must be affixed to the box bottle, vessel or package containing the same, and to the wrapper or cover thereof " And every person who shall sell or retail any such poison shall keep in his place of business a book, in which shall be entered an accurate record of the sale of all poisons, such record shall contain the amount purchased, the date, for what purpose purchased and the buyer's name and address This record shall be at all times, during ordinary business hours, subject to the inspection of the district attorney of the county in which such store is located, or of any authorized agent of said board Any person failing or neglecting to comply with any of the provisions of this section shall be guilty of a misdemeanor and upon conviction be punished by a fine not exceeding $50 nor less than $5 "

When the Illinois Legislature meets again, it should certainly " amend" the pharmacy law once more, and restore it in this particular to what it was before, if it can not be induced to emulate the example of the law-makers of an adjoining State and throw still stronger safeguards around human life

THE DUTY OF URGENT EXIGENCY

The railway companies are finding themselves held to the strictest accountability in their humane or politic—as different persons consider it—arrangements to furnish their unfortunate employes with medical attendance In the case of the Ohio & Mississippi Railway Company v Early, decided April 12, 1895, the Supreme Court of Indiana reverses a judgment for damages obtained in the circuit court It says that while a railroad company is under no legal obligation to furnish an employe, who may receive injuries while engaged in the service of the company, with medical or surgical assistance, yet where a day laborer or employe has, by unforeseen accident to him while engaged in the line of his duty as such employe, been rendered helpless, the dictates of humanity, duty, and fair dealing would seem to demand that it should furnish medical assistance This duty could not rest upon the master in ordinary cases, in the absence of a contract to do so, but should rest upon him only in extraordinary cases, where immediate medical or surgical assistance is imperatively required to save life, or avoid further serious bodily *injury*

This duty on the railroad company only arises out of strict necessity and urgent exigency, where immediate attention thereto is demanded in order to save life or prevent great injury The duty arises with the emergency, and with it expires This duty does not clothe the master with the power to dictate to the injured servant what particular physician or surgeon shall treat him, nor does it deprive such injured servant of the right of making a conscious and deliberate choice, while in the possession of his mental faculties, of the time, place and person, and by whom and when and where he will be treated And if the master, yielding to such right complies with the request to be so treated, and at the same time promptly places before him ample medical and surgical assistance, ready to be rendered to meet the emergency, which he declines, then such emergency has ceased, and the duty with it, and if the choice thus made, in the conscious exercise of his own free will, turns out to be a mistake, the company is not liable, because the duty ceased with the expiration of the emergency

ASSOCIATIONS AND THEIR JOURNALS

"The journal is the Association," says Dr Thomas M Dolan, editor of the *Provincial*, speaking of the *British Medical* He ascribes the wonderful growth of the British Association during the past twenty-five years largely to its journal, and says "When we come to analyze the work of the Association, and what it is doing for the profession, we are more than ever convinced that without the journal the Association would be a very powerless machine, and that were the journal to cease, the Association would rapidly diminish The influence of the press has, during the last twenty-five years, been a constantly increasing one, and we need not wonder that the medical press has shared in the general benefits The *British Medical Journal* has been ably edited Still more, Mr Fowke has been able to secure for it that which brings in grist to the mill—viz , advertisements Without the journal you can hardly imagine an Association What does the journal do? It brings all the members into communication, it publishes letters on every conceivable kind of subject, it lays down the law on ethics, it publishes long reports of the scientific committees, and it also gives the results of the annual meetings, the papers read furnishing material for the year Its editorials and all that comes under the "we" are, we believe, alone paid for, and at a very cheap rate The *British Medical Journal*, then, is the key-stone of the Association, and we hope it will flourish "

It seems hardly necessary to comment upon the foregoing, or to seek to apply its obvious lesson to the American Medical Association and its Journal We will only observe that the "grist to the mill" of the current issue of the *British Medical* is eighty-four pages of well-paid advertisements—netting more than enough, probably, to cover the entire cost of the number

Let the Good Work go on —In the last six weeks nearly two hundred Chicago physicians, have added their names to the subscription list of the Journal of the American Medical Association Many of them have joined the Association, and others have signified their intention The physicians of Chicago know a good thing when they see it

CORRESPONDENCE

Letters to My Hospital Internes, Past and Present

By Casey A Wood, M D , of Chicago

III

Utrecht, July 22, 1895

No better situation could have been chosen for the largest Dutch ophthalmic hospital than Utrecht The city is about the geographical center of Holland and is the seat of a university founded in 1636 whose medical department is attended by a large number of students Ophthalmology, as well as other branches of medicine, owes much to the Utrecht school

It was the celebrated treatise of Donders on physiologic optics (translated into English) that opened the way for a clear understanding of the refraction of the ocular media, the mode of accommodation and the action of the extrinsic ocular muscles All these and many other important matters have been elucidated by his worthy successor, Prof H Snellen Two years ago the building of the new ophthalmic hospital (*Nederlandsch Gasthuis voor ooglijders 49 Bleyenburgstraat*, seventy beds with over five thousand outdoor patients and five hundred operations yearly—daily clinic 8 to 12, operations at 11) was opened This is a very handsome eye hospital with wide corridors, high ceilings and cheerful indoor walks for the patients It is built so that there is plenty of light where a good illumination is required, while convalescents can go about in covered ways suited to their condition In this building Snellen gives the regular university courses for students Here, too, other teaching is done by the Professor's sons, Drs H J and W Snellen and the other assistants All the operators follow the Professor's example in making the corneal incision (in cataract extraction) extend slightly underneath the conjunctiva Snellen thinks that if this is done so as to avoid the sclera, that no bleeding will take place into the anterior chamber and so render the subsequent steps of the operation uncertain and difficult This is, as you know, the chief objection to the conjunctival flaps Its chief advantage is that such a wound heals in a few hours and binds the edges of the cornea closely together When he does an iridectomy, as part of cataract removal, he favors the preliminary operation and performs it some six weeks before When there is increased intra ocular tension, a sluggish pupil, posterior synechiæ or an unripe lens he would advise it At the time of the operation a 4 per cent solution of pilocarpin is instilled, instead of eserin which is often very painful and irritating After dressing the eye, subsequent to any operation where the eyeball has been opened, a thin oval aluminum shield (about 4 x 8 inches) is placed over the ocular region and this is kept in place by adhesive straps The patient is now carried to bed on a litter made of poles and side-pieces run through folds made in the under operating sheet He is allowed to sit up the next day, when the lids are also opened for examination

I was courteously allowed to examine a large number of cataract cases operated upon at various dates, and was greatly pleased with their appearance and the absence of complications The Dutch people are, notoriously clean and live in well ventilated houses I was consequently not surprised to learn that they are pretty free of diseases of the lids and conjunctiva Dr Snellen informed me that in Utrecht, with a population of 100,000, he sees barely 6 or 7 cases of trachoma yearly On the other hand, among members of the large Jewish colony in Amsterdam (most of whom work in factories and live in dirty, ill-ventilated tenements) granular lids has been endemic for over a century, and has apparently resisted all attempts to eradicate it

Professor Snellen is at present engaged in perfecting th ophthalmometer and believes that the University opticia (office in the Physiologic Institute) has succeeded in grin ing the prisms and other lenses connected with the instr ment with a precision not attained by Parisians or othe workers He also showed me a new scheme for testing th color vision of railway employes This consists, essentiall of illuminated colored discs of glass which are exposed for second or less, to the view of the person under examinatio by means of the rubber ball and shutter used in the ordinar photographic camera The size of the disc and its distanc from the eye correspond to the visual angle for which th Snellen test types are arranged The short exposure an artificially illuminated test color make it more difficult fo the color blind person to escape detection than when th Holgren wools are alone employed Moreover, the Snelle apparatus can be used at night time and the illuminatio does not vary, as does that of any other method that depend upon daylight

It seems to me that at least a portion of the post-graduat student's stay in Europe might profitably be spent in one o more of the smaller university towns like Utrecht He woul in this way escape the over crowded clinics of larger citie like Vienna, and be able to get nearer both patients an teachers It is true that in the case of Utrecht, for example the average student does not know and would not care to giv time to the study of Dutch, but since both Professor Snelle and his assistants speak admirable English, and many o the patients understand a little German, this drawback i not a serious one I think, also, that it is a mistake for the student of German medicine to give *all* his time to Berlin and Vienna, where he often has to take his chances with the members of a large class in getting partial views of operations between the heads and over the shoulders of numerous assistants who crowd about the operating table In smaller places, like Prague, Königsberg, Göttingen, Kiel, Buda-Pesth, etc , the American student will generally have the advantage of personal instruction from as good teachers as he will find in Vienna, and will secure advantages and opportunities which he can not hope for even in the much-vaunted and more costly courses of the Austrian capital

Berlin, July 30, 1895

There have been remarkably few changes in the *personnel* of the Berlin medical faculty during the past eight years It would require more space than I have at my disposal even to mention all the celebrities at whose feet students, both graduate and undergraduate, might sit at this great teaching center I renewed my acquaintance with so many of them as I could find in town This is, however, the time of the midsummer vacation which every North German keeps who can

Virchow is still working away, pretty much as usual His celebrated early morning (*Pathologisches Institut, Charité*, Mon , Wed and Sat , 8 to 10 A M) demonstrations in pathologic anatomy and microscopy is just ended but will begin again, like all the other university classes, with the winter semester about the middle of October and last until March Virchow's former assistant, now Professor Israel—well known friend of the American—also gives courses on pathology in the same place

Berlin, when the convenience of the post-graduate student and the opportunities for study are concerned, is, to my mind, superior to London, while equivalent courses are much less expensive than those of Vienna In the latter city every thing medical practically centers about the large *Allgemeines Krankenhaus* , there is no running about to distant hospitals or lecture rooms for instruction or to witness operations Both the regular University lectures and the other Vienna courses (which go on month after month with little change) on the same or allied subjects, are generally so arranged that one can constantly pursue even a single line of study without much conflict of lecture hours The proportion of teachers who speak English is probably greater in Vienna than in either Paris or Berlin

Although Vienna is perhaps the best place for the student who has but a short time for study abroad, yet Berlin and other German cities occasionally offer superior advantages in most departments of medicine to the physician or surgeon who can remain for a year or two A prolonged stay will enable him to learn the language thoroughly and he will be better able to mentally digest what he sees and hears He will also cultivate the acquaintance of teachers (a numerous class here) who follow their particular studies with an eye single to the service of science—not always casting furtive glances at the pocket books of the class before them The University issues an admirable calendar (to be had at every book store) and time table of lectures—a pamphlet that will be appreciated by those who have studied in London and Paris Armed with this, and having chosen a centrally located lodging somewhere near the *Charité*, he can profitably set to work at almost any time Berlin should, however, be avoided by the new arrival during the months of July, August and September unless he has previously arranged to act as *locum tenens* for some assistant or chief of clinic who has gone for the usual holiday Moreover, unless he wishes to follow some special advanced course or courses it would be wise for him to begin at the commencement of one of the semesters (the next begins October 26), or one of the *Feriencurse*—vacation courses—for practicing physicians The latter can not be too highly praised and should be attended by every post-graduate student who can conveniently reach Berlin toward the end of September Full information regarding each course with the address of the clinic where it is held, name of teacher, honorarium, etc, is given in an announcement to be found in most medical bookstores or at the "Langenbeck house" (*10 Ziegelstrasse*)

The lecturers and instructors in the *Ferien* courses are not confined to the professors and *privat docenten* of the University—although these are in the majority—so that several competent and popular instructors outside the sacred precincts are afforded an opportunity to display their merits

As many of these courses are limited, an early application is usually desirable before September 30, when certain of them begin They all come to an end on October 26, each single course lasting four weeks The fees are usually 40 marks ($10) but range from 20 marks—*e g*, Westphal's class in mental diseases, limited to five, twice a week—to 150 marks for Baginsky's practical course in otology, limited to three, and held daily No department or departmental subsection of medicine or surgery seems to be forgotten in this scheme For instance, there are thirteen courses, no two of which cover the same ground, in bacteriology, normal and pathologic anatomy, seventeen in internal medicine, eleven on the eye and ear, eight on gynecology and obstetrics, two on physiology, six on medical jurisprudence, toxicology and hygiene, eight on nervous diseases and electro-therapy, five on general surgery, fourteen on diseases of the ear, nose and throat, seven on syphilis, skin diseases and diseases of the genito-urinary organs, and one on medical photography

Berlin has for us rather a melancholy interest in presenting most of the sanitary advantages that our large towns lack, and but few hygienic shortcomings, of which American cities furnish such conspicuous examples Every medical visitor should inspect as part of his studies, the extensive municipal slaughter houses and their laboratories, where *every* animal is examined, macro- and microscopically before its flesh is used for food And woe unto the butcher who dares expose for sale a carcass lacking the proper sign of examination! He should also inquire into the system by which a *daily* and thorough (I had almost said non political) examination is made of the milk sold within the city limits, and by which a careful search is instituted for adulterations in other forms of food These matters are fully gone into by Meyer in a little book (*Das Gesetz betreffend den Verkehr mit Nahrungsmitteln*) published by Springer in Berlin During this study of municipal hygiene, he will find that smallpox is practically unknown in Berlin and that everybody is, without exception, vaccinated Finally, not to further expand this letter, he will discover that the sewage of the town does not pollute the Sprey, but is pumped out to, and spread upon a municipal farm of some 1,200 acres where it is used as a fertilizer This estate is thus made to pay, over and above current expenses, more than 3 per cent on the original outlay for the land

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The Code—Once More

Chicago, Ill, Aug 1, 1895

To the Editor—Will you grant me a little space to consider three questions which in the midst of all the present discussion upon the Code of Ethics, I do not remember to have seen presented in print in exactly the same way they have presented themselves to me A clear, precise answer, devoid of all eloquent circumlocution, to each one of them will, I believe, go far toward establishing the value of the Code in the minds of many doubters in the profession These questions stated briefly are as follows:

1 Is any written Code of Ethics compatible with free competition?

2 Is any code which does not assume the form of law with penalties attached, likely to have more than a poetic influence upon competing men?

3 Is the medical profession free from the "commercialism" so much contemned by the Code?

Upon principle and policy I will confess that I am a rigid code man, but I nevertheless fail to see the advantage of a written code of ethics for the medical profession or any competitive avocation and I am without hope of such a code ever being universally practiced though it may be universally admired The weakness of the Code in the matter of personal competition and want of provision for appropriate penalties, I can best show by a couple of illustrations

A young man, industrious and well-trained, honorable and talented, graduates at the head of his class and then begins the practice of medicine upon a limited capital He expends a large part of his surplus cash fitting up his office and otherwise equipping himself for his life work Like all beginners, he has but few patients, and these far between Some morning while wearily waiting in his office, an individual walks in to consult him in regard to a small tumor The young physician recognizes the nature of the growth, is fully cognizant of the ability and willingness of the individual to pay him a handsome fee for removing it, and has furthermore, every confidence in his own surgical skill gained by hospital experience The patient, however, suddenly informs him that he has just come from Dr X, whom the young man knows by repute and personal knowledge to be a man of inferior attainments He furthermore learns that Dr X has been in charge of the case, and for the last three months has been endeavoring to remove the tumor with all sorts of internal and external medication Dr X being a regular physician, a confrère and personal acquaintance as well as a near neighbor, the young man at once thinks of the Code of Ethics He also thinks of his own sore need of money to meet his coming rent, and of this rare opportunity afforded him to reveal his superior skill and experience To send the patient back to Dr X, would not bene fit the patient but would merely turn him away to some other physician It would moreover, probably bring down upon his own head all the jealous wrath and backbiting of an angry rival—a result which he is likely to bring about whatever course he may pursue

What, Mr Editor, is the young man to do in the light of the Code of Ethics? One specific answer in such instances which are so common, is worth a volume of general platitudes

Permit me to relate an actual occurrence, for these are the cases that are troubling many honorable men in the profession who admire the Code and yet seem strangely opposed to it

A young friend of mine was treating satisfactorily several members of a well to do family One of the daughters of this family suffered from excessive dysmenorrhea, the attacks of which were so severe as to resemble hysteria A consultation was proposed and a popular gynecologist summoned Glancing at the patient, the latter at first declined to make the examination, saying that the case was merely one of nervous dysmenorrhea so frequent among young girls and that marriage would relieve her of all her trouble The family physician, however, insisted upon a physical examination, stating that the family expected it It was made The consultant still declared that nothing was the matter except general neurasthenia which was to be treated upon general principles, and with electricity to the spine, notwithstanding the fact that he had been told the girl had undergone such treatment for about two years at the hands of one of the best neurologists in the city This was in the spring of the year The gynecologist went to Europe, and the young physician not having made an examination himself, carried out the consultant's suggestions to the letter There was not a particle of improvement, but rather the reverse In the fall, the gynecologist returned and the attending physician after much earnest persuasion got the patient to go and see him She did so, but note the result! The great man now said she had "inflammation of the womb," that she always had had it and that it was the inflammation which had given her all the trouble in the spring and while he was away She was told to visit his office (the gynecologist's office!) once or twice a week to receive local applications, for which she paid him $5 a visit To complete the story, she went regularly still continues to go, so far as I know though much dissatisfied with the result obtained, as she seems but little better than she always was

The family physician who graduated with intense enthusiasm for the Code, told me he was astounded at two things first, that the gynecologist whom he had often heard speak glowingly and eloquently before medical audiences in behalf of the grand Code of Ethics, should have so ignored his rights, and second that he should have played him so false as to recommend a line of treatment in the spring so utterly at variance with the requirements of the case The family physician being still in attendance is asked all sorts of questions in regard to the gynecologist's sudden change of opinion, line of treatment, results obtained, etc To preserve his own credit and to act up to the spirit of the Code how, Mr Editor, should the attending physician reply to these questions?

A simple answer in such a dilemma is worth a dozen generalities I wish space was permitted me to cite from actual occurrences even more glaring than these, and I furthermore wish that the valuable space of our better journals now filled with "sweet talk" and "platitudinous nonsense" about the grand old Code were used to report specific instances of flagrant misdemeanors We would then secure some perceptible light upon many a dark problem haunting the minds of honest would-be high code men

Mr Editor, when a man's living is at stake, it is not in the power of human nature for him to make a martyr of himself One may be persuaded at times to sacrifice one's personal ambition for an ideal principle, if by so doing he does *not* cause himself or family to starve, but it is perfectly useless to talk to a man about declining to receive certain patients when he is dependent upon these patients for his daily sustenance It is simply Utopian Competition exists in the practice of medicine as in every other walk of life Endow a man with a life competency and he may rise above the spirit of competition except as a means of personal gratification He may then live up to the letter of the Code or any other divine rule of conduct On the other hand, while it may not be a glorious act of martyrdom, neither is it a form of dishonesty for a man to accept all that the world chances to send him and all that his superior talent and education entitle him to enjoy The socialistic notion is a dream of the imagination, it is neither desirable nor practicable in this intensely human world of ours It is not to be expected or commended in human nature to hide its light under a bushel It is a fact, all too apparent, that the one hundred and forty medical colleges of our country turn out doctors of widely varying abilities The spirit of the Code, if not the actual words, seem to require that every doctor should defer and bow to every other doctor, which as a matter of Chesterfieldian courtesy is all right, but as a matter of a competitive struggle for existence is simply impossible The medical profession consists of *men* having all the various feelings, unequal talents and differing ambitions of *human beings* The practice of medicine being almost universally the means of earning a livelihood is a matter of pure competition, and competitors in the very nature of the case can not afford to be self-sacrificing for one another

It has been said by some of our rigid code friends that the preceding argument is an ancient one and in a few words amounts to this because "men do not live up to an ethical, religious or even a legal ideal, therefore the ethical, religious or the legal law or ideal should be abolished" In reply, I must recall to our friends the fact that unanswered and unanswerable arguments, only, become ancient, otherwise they would cease to exist at all as arguments, and secondly, that ethical, religious and legal laws or ideals are totally free from the influences wrought by competition To speak of ethical, religious and legal ideals in the same category as the medical code is a willful misconception or lamentable ignorance of them all Ethics has to do only with a man's own conscience and is largely a matter of education A disregard of ethics may injure the man himself but he has only himself to answer for it, when a disregard of an ethical question amounts to a positive injury to one's neighbor, the law steps in and takes charge of the question which has now ceased to be one of pure ethics Law, however knows that its ethical enactments must be enforced with appropriate penalties A man may lie, if he wishes, to his neighbor and he may even become an habitual liar, which is unethical and may prove unprofitable, but at all events the man is free to do as he likes and from his particular point of view may even reason that it is right to lie If he commits a forgery, however, he injures another beside himself and the law then takes charge of him and punishes him

Ethical questions are all controversial They range from questions of mere self-preservation to questions of heroism and martyrdom A Hottentot's ethics differ from the ethics of the North American Indian In all sincerity each will act in accordance with his own conscience Two men and their families watch a burning house A child belonging to neither of the men has been left in the house and it is positive death for either one of them to attempt to rescue it One man says "My family is dependent upon me I will not risk my life' —(self-preservation), the other says "I will try and save the child if I lose my own life" He rushes in and does lose his life—(heroism) The ethical question in the case of each man was answered by his own conscience A man steals for his starving little ones at home, another lets them starve rather than steal They both know it is wrong to steal, but their respective reasoning leads them to different results

So illustration after illustration might be given to show that ethical questions are, as a rule, controversial, and are usually answered according to a man's *individual* conscience Recognizing this fact, common law strives to eliminate the controversial element out of the ethical questions it takes in hand, by assigning penalties for their disregard It says to both men who steal "I care not what reasons you may have had for stealing, reasons perhaps conclusive to your own mind Stealing is wrong and you must be punished for it" That is just where the Code of Ethics of the American Medical Association is at fault It is a mere code of ethics and is therefore controversial, on the other hand, it is not law and therefore without the force which law with its penalties usually exercises

Religion is so absolutely a matter of private opinion and so utterly free from all shadow of human competition, that I marvel any rational being should have compared it and its teachings in any way with the practice of medicine Jew and Gentile live most harmoniously together so far as their particular religious opinions are concerned, but may fight like the Killkenny cats when bartering over a piece of silk I am ashamed that any one in this nineteenth century and in this tolerant land should even so much as *insinuate* that religion and religious tenets enter as a part of the competitive scheme of life Religion is a matter of the soul, and has to do with man's relation to his Creator The nature of that relation may and does influence in one way or another the man's actions in life, but for those actions he is responsible only to his Creator from the *religious* standpoint A Mohammedan with his dozen wives, a Jew denying the Messiahship of Christ, an Atheist and a Christian may buy and sell, practice medicine upon each other and do a thousand other things mutually needful in life, and yet never know one another's religious opinions

Let us not lose sight of plain common sense in our discussions The Code, therefore, while theoretically a most commendable set of rules, just as Plato's "Republic" and More's "Utopia" are theoretically admirable governments, is practically valueless *because it can not overcome (nor would it be desirable for it to overcome)* the worldly spirit of competition, and because it offers no appreciable detersive against its own infringements

Why, Mr Editor, it seems almost absurd that it should ever have been thought that such rules would be effective Every organization that I know anything of, such as militia companies, literary societies, clubs and beneficiary bodies, impose fines for misdemeanors or delinquencies against their rules, and yet these delinquencies and misdemeanors, while involving more or less disgrace, do not involve a man's livelihood *On the other hand, the* American Medical Association adopts a set of rules utterly devoid of all punitory provisions and then expects it to be effective against misdemeanors and delinquencies that are not only at times irresistibly tempting but, occasionally, seemingly necessary for *a man to commit in making his living*

I verily believe, sir, in that as a profession we injure and belittle ourselves in the eyes of the people, with all this *shallow, ineffective nonsense of the Code, and with the* effort to set ourselves up as superhuman beings, too good for this terrestrial existence with its sharp competition and intense rivalry I wonder that lawyers statesmen and legislators, leaders of men and all those who have to do with men *en masse*, do not laugh at us more than they are in the habit of doing, for our refreshing gullibility in expecting laws without penalties attached to have any very profound or extensive influence

Let me say emphatically right here, sir, that for one, at least, I disclaim all such slurs upon our great merchants, bankers and commercial houses as are insinuated in the cant frequently appearing in our journals to the effect that, as a profession, we are too good to stoop to commercialism and commercial methods We do stoop to commercialism and when honorably done we need not be ashamed of it We exchange or *barter*, if you like, our skill, learning and particular experience for a price Our prices vary with our skill and reputation, just as the merchants' prices vary with the quality of their goods We advertise too, and it can not be gainsaid Our successful cases are our advertisements College and *hospital appointments are eagerly sought after* by most reputable men for the advertisement such positions give them We join social organizations and enter clubs, unions and all forms of corporate life for the advertisement we get therefrom We solicit patronage by seeking for examinerships in insurance companies, railway offices, beneficiary unions and other associations If we are specialists we are not averse to accepting office in special societies and *even giving banquets and receptions* to the medical profession in our own homes As editors of reputable journals, we publish our names in full at the head of the editorial columns Our libraries groan with the accumulated weight of books in which positively the only new thing is the author's *name with a long string of self-laudatory honors* attached Perhaps 50 per cent of our periodical literature is written for mere advertisement Is it from the simple *love of speechmaking* and a self-sacrificing devotion to poor humanity that some of the best of us give lectures upon medical topics before Young Men's Christian Associations, popular institutes and other public assemblies? If we are rich enough to drive a team and keep a luxurously appointed *office with an* extra maid in attendance, do we not do so? Show me the doctor who, in dress, manner and mode of living does not endeavor to put himself *in* the best light (professional light, I mean) before the community, and I will show you a man who has ceased to be human

And what is this all done for? Legitimate advertisement, call it by what other name you please Let us not ostrich-like hide our heads in the sand and chuckle to ourselves *that* we are unlike other men Let us, for our own credit's sake, at least, not try to parade around in the masks of angels, in the hope of making a shrewd world believe that we are something more than human

No, sir! I, for one, most honestly believe and aver that doctors as a class are no better, no worse than any other class of men Pray, who does not know that the entire commercial world has an unwritten code of ethics? The great and honorable merchants deal courteously, gentlemanly and diplomatically with one another as all men should do, they compete for customers in a legitimate manner, and they strive to surpass one another by availing *themselves of their respective superior opportunities* They are charitable in their way just as we are in ours They give of their wealth as we give of our skill It is high time that we should cease the cant phrase and vulgar insinuation that we as a profession are something better than the *commercial world* We are what we are, solely because we are the *men* we are I believe if we acted less superciliously, and met the laity on their own footing, there would be less fric*tion between hospital boards and medical attendants*, between courts and experts, between public functionaries and physicians in public places

Let us have done, then, with all this unbecoming, childish, self-laudatory, namby-pamby nonsense about the angelic qualities of the medical calling It is a practical, very practical profession in a practical world among practical men An unwritten code will always exist among medical gentle*men, just the same as an unwritten code exists among gen*tlemen in other walks of life For the other fellows of the medical profession, as well as for the other fellows of the other avocations, the only code that will be of any avail at all will be the code that has some effective punishment pro*vided against its infringement* Americus Veritatis

BOOK NOTICES

Gunshot Injuries A New Edition of Sir T Longmore's Work.—Gunshot Injuries, their History, Characteristic Features, Complications and General Treatment, with statistics concerning them as they have been met with in warfare By Surgeon-General Sir T Longmore (Retired) C B, O H S, F R C S, etc Second edition London and New York Longmans, Green & Co

Surgeon-General Longmore, *although on the retired list of the Army, has not given up his active work* on behalf of the medico-military profession There has just been issued a second edition of his volume on gunshot injuries The first, published in 1877, contained 686 pages, the second is a solid *volume of 821 pages In the intervening years*, radical changes have been made in the firearms of military nations which will alter the character of the gunshot wounds of future wars and modify the relations which medical officers *will bear to the fighting line*, *meanwhile, also*, changes have taken place in methods of treatment The object of the present volume is to give an account of these changes and to bring the information contained in the former edition on many other topics up to date The reader will, however, find it a work of much difficulty to sift out the new matter, as it is scattered throughout the many sections and chapters in interpolated paragraphs and sentences and even in modifications of the sense of sentences *that are found in the* old edition In fact, the whole work has evidently been rewritten with the utmost care

In bringing up to date the many other topics to which he refers in his preface, the author has made free use of the third part of the "Surgical Volume of the History of the War of the Rebellion," which was issued subsequent to the publication of his first edition

In Chapter 2, a paragraph is given to smokeless powder, a second to the special explosive, cordite, authorized in the British service for use with the Lee-Mitford rifle, and a third to the use of compressed air as an agent in the production of gunshot wounds In Chapter 4, the article on *red hot* shot gives place *to one on machine* guns and another on "fougasses" The latter are stated to have been employed largely, under the misapplied name of "torpedoes," in the defense of places during the War of the Rebellion in the United States In Chapter 5, the leading features of the principal military small bore magazine rifles and their projectiles are described, including the Lebel, Mauser, Krag-Jorgensen, Berthier, Mannlicher and Lee Mitford, and this chapter closes with a paragraph which constitutes the text of most of the new matter in the volume "The alterations that have occurred during the last three or four years in military rifles and their projectiles, the reduction in caliber of the firearms, the introduction of compound projectiles nd the use of new explosives in place of gunpowder, have d to extremely important changes in the general aspects war, as well as in the characters of many of the wounds hich are likely to be inflicted in the future at remote dis-nces So far as Europe is concerned the effects of the new eapons have only been observed, with a few accidental xceptions, experimentally, they have not happily been xperienced in actual war The reports which have been ublished regarding the results of their partial use during e civil war in Chili have been contradictory But it is eyond question that the changes referred to have caused a ery great increase in the velocity both of translation and tation of the bullets, in their accuracy of flight over ex-nded ranges, and in their penetrative capacity The crease in hardness of the surfaces of the projectiles, at the ame time the fact of their weight being sufficiently main-ined by the core of heavy lead within, effect results which ot only increase the power of penetration of these narrow issiles, but also enable them to maintain this power over istances at which the rifle bullets in previous use had arted with considerable portions of their energy Another nportant consequence of the great reduction in the diame-ers of rifle projectiles, surgically regarded, is the fact that, ith the narrowing, there has been a proportionate exclu ion of air, and of all the irritant and morbific germs which ir contains, from the openings and interior surfaces of ounds caused by them When, therefore, the wounds are onfined to some of the soft and yielding tissues of the uman body, they become nearly analogous to subcutaneous ounds"

The various properties, as defined by experiment, of the mall bore armored bullets are described Their destructive nergy up to 500 or 600 yards is in excess of that possessed y any rifle projectiles that have preceded them, while their enetrative energy up to 2,500 yards, and beyond, is such hat no bodily structure is able to resist their passage There little difference in the amount of comminution of bone nd general damage produced by them at short ranges and he 45 inch bullets in previous use, the main difference etween them being that the destructive effects of the small ore bullets are met with at distances considerably beyond hose at which they result from bullets of wider diameter he damage done by the narrow bullets at medium ranges o the shafts of bones is always very great, but has been bserved generally to be less than in wounds at similar anges by old style bullets, while at very long ranges, at hich a greater amount of velocity and higher penetra ive power are preserved by the narrow bullets, the com ninution and splintering are generally greater from the arrow than from the broader projectiles

In discussing the conveyance of septic germs by bullets he experiments of Captain La Garde, U S Army, as pub-ished in the Report of the Surgeon General for the year end-ng June 30, 1893, are cited, and a synopsis is given of the onclusions deduced from his experiments

The survivals among patients with penetrating wounds of he chest will probably occur in a much larger proportion n future wars The slight resistance that can be offered gainst the passage of the new bullets will cause perforating wounds of this region to be more common than hitherto, while the narrowness and other physical qualities of the bullets will render their effects less fatal by limiting the areas of the lesions inflicted by them Penetrating wounds of the abdomen will also be more frequent, while the difficulties in the way of applying the remarkable improvements that have taken place in abdominal surgery in civil life, to military, practice after important engagements in the field, will probably prevent any considerable reduction in the large ratio of mortality which has hitherto attended them

Professor Longmore refers to the rarity of erysipelas in gunshot wounds since the use of antiseptics has been adopted He speaks of the presence of pyogenic cocci in pyemia and of the special microörganisms and their septic products which give rise to hospital gangrene, but he doubts the connection of tetanus with a bacillus, considering the difficulties insuperable when endeavors are made to reconcile the agency of this reputed cause of tetanus with all the clinical conditions under which the disease has followed gunshot injury on different occasions in naval and military practice

In the paragraph on examination by the finger, he has introduced a new sentence 'It seems hardly necessary to observe that when making an exploration of the kind in the field, where sources of impurity are so abundant, very strict care has to be taken to prevent the introduction of septic matters into the wound by the explorer's finger or by the fingers of assistants" A paragraph on antiseptic dressings, not found in the old edition, discusses the use of sublimate solutions, sublimate wool, iodoform and the double cyanid of mercury and zinc

In the old edition, the chapter on inflammation began with the enunciation of the principle "Every gunshot wound, the most trivial as well as the most severe and complicated, is naturally followed by inflammatory action" In the new work, inflammation is not recognized as an essential consequence of a gunshot wound The following sentence does not appear in the new volume "The amount of suppuration has been reduced by the greater attention which is now being generally given to hygienic arrangements and especially to cleanliness in the manipulating of wounds, but I fear the day is still far distant when suppuration will not be met with during the process of cure in a very large proportion of severe gunshot wounds"

In referring to the prevention of muscular contractions and stiffness of joints during the healing of wounds, the Continental practice of sending the patient to some of the thermal springs is favorably mentioned

Lastly, in speaking of the 1 4 ratio of killed to wounded in battle, the following is inserted "If we may judge from the experience gained down to the present time, such may be regarded as an approximate average of the proportion of killed to wounded likely to be met with in battles It is generally surmised that the employment of small bore bullets will lead to the proportionate number of men killed in battle being lessened and that of the men wounded being increased, so far as regards rifle fire, but even if this surmise should prove to be correct, when the uncertainty which prevails regarding the probable effects of the new artillery fire is considered, it seems evident that the general ratio of killed to wounded among troops in wars of the future can not now be forecast with any approach to accuracy"

A German English Medical Thesaurus, or TREASURE OF SINGLE AND COMPOUND MEDICAL WORDS AND TERMS with Dialogues Idiomatic Phrases and Proverbs, etc, and German and English Indexes for Physicians and Students By REV HENRY LOSCH, M D Pp 323, cl Philadelphia, 1895 Published by the Author Price $2 50

This manual contains over twenty thousand words relating to medicine and is distinguished by its conciseness in definition and its simplicity in the arrangement of the vocabulary for rapid reference The book is divided into three parts, of which the first is devoted to the systematization of simple and compound medical terms, the second, to hygienic, medical, surgical and domestic affairs, Part 3, consists of dialogues, idiomatic phrases and proverbs, a schedule of the termination of each declension, and a list of irregular verbs Medical students will find much of value in this volume, and it should find a place upon the shelves of every reference library

SOCIETY NEWS

Southwestern Iowa Medical Association —The semi-annual meeting of the Southwestern Iowa Medical Association was held in Red Oak, Iowa, August 15 Attendance sixty—— The physicians of Douglas County, Kansas, met at Lawrence, Kan , August 10, and formed a society The following officers were elected President, W S Bunn, Vice President, J I Douthart, Secretary, H Ernest

Mississippi Valley Medical Association —The secretary of this Association desires to announce that the railroad rates for the Detroit meeting September 3, 4, 5 and 6 will be one and one third regular fare, on the certificate plan In purchasing ticket to Detroit full fare will be paid On request, the local ticket agent will furnish purchaser with certificate which will be handed to the secretary at Detroit This certificate when signed and vised by the agent of the Central Traffic Association will entitle holder to a return ticket at one-third regular fare FREDERICK C WOODBURN, Secretary

American Academy of Railway Surgeons —The second annual meeting will be held in the parlors of the Auditorium Hotel, Chicago, Ill , on Wednesday, Thursday and Friday, Sept 25, 26 and 27, 1895 Motto "The higher the order of Railway Surgery, the greater the protection to the Employe, the Passenger and the Company" Officers President, C K Cole, Chief Surgeon, Mont Cent R'y, Helena, Mont , First Vice-President, C M Daniels, Chief Surgeon, W N Y & P R'y, Buffalo, N Y , Second Vice-President, W H Elliott, Chief Surgeon, Cent R'y of Georgia, Savannah, Ga , Secretary, Webb J Kelly, Surgeon, Erie & Big Four R'ys, Galion, Ohio, Treasurer, C B Kibler, Surgeon, Erie R'y, Corry, Pa , Editor, R Harvey Reed, Consulting Surgeon, B & O R'y, and Surgeon, C S & H R R , Columbus, Ohio, Chairman of Executive Board, John E Owens, Chief Surgeon C & N W R'y Chicago, Ill , Chairman of Committee on Transportation, W J Galbraith, Chief Surgeon, U P R'y, Omaha, Neb , Chairman of Committee on Arrangements, A D Bevan, Chief Surgeon, Iowa Central R'y, Chicago, Ill

FIRST SESSION—WEDNESDAY

Subject unannounced, R D Mussey, Chief Surgeon, C H & D R'y, Cincinnati, Ohio

Some of the Benefits to be derived from the Higher Order of Railway Surgery, W J Galbraith, Chief Surgeon, U P R'y, Omaha, Neb

Subject unannounced, A D Bevan, Chief Surgeon, Iowa Cent R'y, Chicago, Ill

Subject unannounced, M Cavana, Surgeon, N Y P & O R'y, Oneida, N Y

Subject unannounced, W H Buechner, Surgeon, Erie R'y, Cleveland, Ohio

SECOND SESSION—WEDNESDAY

President's Address, C K Cole, Chief Surgeon, Mont Cent R'y, Helena, Mont

Report of Secretary, Treasurer and Standing Committees Registration of Fellows and payment of dues Consideration and disposal of applications for fellowship Miscellaneous business

THIRD SESSION—THURSDAY

Subject unannounced, J W Perkins, Surgeon, U P R'y, Kansas City, Mo

Fractures of the Forearm Complicated with Dislocation, E Griswold, Surgeon, Erie R'y, Sharon, Pa

Subject unannounced, Wm T Dalby, Ass't Surgeon, U P R'y, Salt Lake City, Utah

Subject unannounced, F H Peck, Surgeon, N Y P & O R'y, Utica, N Y

FOURTH SESSION—THURSDAY

Address on Medico-Legal Surgery, Hon Tracy C Becker, Buffalo, N Y

A Practical Way of Testing Railway Employes for Color Blindness, D C Bryant, Oculist, U P R'y, Omaha, Neb

Traumatic Neurosis, Henry W Coe, Surgeon, East Side R'y, Portland, Ore

Verdicts Obtained Through Perjury, C B Kibler, Surgeon, N Y P & O R'y, Corry, Pa

What Should Disqualify Applicants for Railway Service, John E Owens, Chief Surgeon, C & N W R'y, Chicago, Ill

Personal Experience in Spinal Injuries, J M Pritchard, District Surgeon, C & N W R'y, Manitowoc, Wis

Intra-Venous Injection of Neutral Salt Solution in the Treatment of Desperate Injuries Exhibition of Apparatus, C B Parker, Surgeon, L S & M S R'y, Cleveland, Ohio

A Word on the Modern Use of the Terms Infection and Contagion, R Harvey Reed, Consulting Surgeon, B & O R'y, Columbus, Ohio

FIFTH SESSION—FRIDAY

Railway Sanitation, W M Bullard, Ass't Surgeon, Mont Cent R'y, Wickes, Mont

Sanitary Regulations Governing Railways, L E Lemen, Division Surgeon, U P R'y, Denver, Colo

The Use of Gold Foil in Fractures of the Cranium and Resulting Hernia Cerebri, W L Estes, Chief Surgeon, L V R'y, S Bethlehem, Pa

SIXTH SESSION—FRIDAY

Transportation of Injured Employes, F H Caldwell, Chief Surgeon, S F & W R'y, Sanford, Fla

The Use of Cocain in Minor Amputations, C M Daniels, Chief Surgeon W N Y & P R'y, Buffalo, N Y

Concussion of the Brain, W H Elliott, Chief Surgeon, Ga Cent R'y, Savannah, Ga

Wounds that Open the Knee-Joint—Treatment, C D Evans, Surgeon, U P and B & M R'y, Columbus, Neb

Treatment of Wounds of Face and Scalp, Charles B Fry, Surgeon, Big Four R'y, Mattoon, Ill

Injuries of the Hands and Fingers, John McLean, Chief Surgeon, P P C Co , Pullman, Ill

How to Differentiate Between the Use of Heat and Cold in Railway Injuries, Wm Mackie, Surgeon, C M & St Paul R'y, Milwaukee, Wis

Best Method of Obtaining the best possible Aseptic Condition during Operation done at places other than Hospitals, J F Reger, Surgeon, B & O R'y, Littleton, West Va

SEVENTH SESSION—FRIDAY

Selection of next place of meeting Miscellaneous business Introduction of officers elect Adjournment

The managers of the various railroads that have already reported, have very cordially agreed to furnish the necessary transportation to enable the Fellows of the Academy to attend the coming meeting Those who need transportation will apply for same at once *through their proper officers*

Very respectfully submitted,
W J GALBRAITH, Chief Surgeon, U P R'y, Omaha, Neb

Medical Society of Virginia —The twenty-sixth annual session of the Medical Society of Virginia will be held in Wytheville, Va , beginning Sept 3, 1895 After prayer, Address of Welcome by COL R E WITHERS, M D , Report of Committee on Applications for Fellowship, etc , the Address to the Public and Profession will be delivered by DR LEWIS G PEDIGO, Shawsville, Va

Report of Committee on Prize Essays Dr Hunter McGuire's prize of $100 for essay on "The Present Status of Serum-Therapy," conjoint prize of Drs Joseph Price and Herbert M Nash of $200, for "The History of Surgery and of Surgeons in Virginia"

Wednesday, September 4, Dr Ro J Preston, of Marion, Va , will deliver the Annual Address of the President

After the elections, etc , the call for papers and discussions will be continued as the order of business The following Fellows have complied with the terms of their appointment by the President last fall

Z V Sherrill, Bland Court House, Vesical Calculus in

Females, James N Greer, St Paul, Laparotomy, with Report of Cases, C K Kernan, Lebanon, Strychnia as a Heart Tonic, W S Sayers, Wytheville, Convulsions, George Ben Johnston, Richmond Treatment of Cholelithiasis, J W Long, Richmond, Pelvic Inflammations, T W Simmons, Martinsville, Uric Acid as a Gynecologic Factor, Wm F Drewry, Petersburg State Provision for Epileptics, Hugh M Taylor, Richmond, Obstruction of Bowels, Paulus A Irving, Richmond Puerperal Sepsis

The following have promised papers Honorary Fellow Dr Hunter McGuire, Richmond, Seventeen Operative Cases of Chronic or Relapsing Appendicitis, with One Death—Remarks, B C Keister South Boston, Varicocele, J Allison Hodges Richmond, The Galvanic Current in Treatment of Pelvic Pain, Honorary Fellow Dr Joseph Price, Philadelphia, Pa, R M Slaughter, Theological Seminary, Abscess of the Liver in Children, James L Kent, Bertha Long Survival of Injury of the Spinal Cord in the Cervical Region, Charles M Blackford, Lynchburg, Pathology and Treatment of Gonorrhea, Honorable Fellow George Tucker Harrison, New York, The Symptomatology, Etiology and Treatment of Endometritis, M J Payne, Locust Grove, A Case of Cerebral Trauma, Indistinct and False History—Remarks on Diagnosis and Treatment, Jos A White Richmond, Eye Troubles in their relation to Diseases of Other Organs

The following have responded favorably J McFadden Gaston, Atlanta, Ga, Pyemia and Septicemia in their Surgical Aspects, D Mayer, Charleston W Va, Rigid Os, Edwin Ricketts, Cincinnati, Ohio, Some Recent Work in Gall Bladder Surgery

Landon B Edwards, M D
Recording Secretary, etc (for the Executive Committee)
Richmond, Va, Aug 3 1895

PUBLIC HEALTH

To Prevent Blindness —Two laws precisely alike were passed by the last General Assembly at its regular session and signed by the Governor of Illinois, namely, House Bill No 51 and Senate Bill No 57 They provide that should any midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse having charge of such infant to report such fact in writing within six hours, to the health officer, or some legally qualified practitioner of medicine in the city, town or district in which the parents of the infant reside Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed $100 or imprisonment not to exceed six months, or both

Right Denied to Boards of Health.—A health ordinance providing that no cows shall be kept within two hundred feet of any dwelling without a special permit obtained from the board of health, the general term of the Supreme Court of New York holds, in the case of Village of Flushing v Carraher, decided May 13, 1895, is not authorized by a statute which gives local boards of health power to make and publish all such orders and regulations as they may deem necessary and proper for the preservation of life and health and the execution and enforcement of the public health in the municipality, and to make, without publication thereof orders and regulations for the suppression of nuisances and concerning all other matters in their judgment detrimental to the public health in special or individual cases Under the statute, if the matter is such that a general ordinance can be passed upon the subject, the court says that then such ordinance should be enacted If not susceptible of general regulation, then the board should proceed by special order in the particular case, when the person attacked may defend himself in the courts The board of health, by the ordinance under review, did not forbid the keeping of cows within two hundred feet of a dwelling house but so keeping cows without a special permit In other words, the board took to itself the power of licensing cow stables No such power was granted by the Legislature

French Degeneracy from Alcoholism—Absinthe Condemned —The Paris correspondent of the *Press and Circular*, for the issue of June 26 writes that Dr Lannelongue, who is a member of the House of Deputies as well as professor at the Academy, has made a vigorous appeal against the lax laws of France concerning the manufacture and sale of alcohol "Among other statements made by Dr Lannelongue, he said that 'alcoholism, at the present day, was not only endangering the public health, but also threatening the very existence of the species, it filled the hospitals, the asylums, the prisons, and populated the penal settlements Previous to 1850, alcoholism was almost unknown, or rather it had not the same character the effects were temporary because the drink taken was pure and natural But four years afterward, alcohol of vinous origin failed, and immediately it was replaced by that derived from molasses, beet-root, and potatoes, which poisoned the race In 1830 the number of suicides from alcoholism were 5 per 100,000 persons, they were 21 in 1881, while 46 per cent of homicides, 74 per cent of grievous wounding, 54 per cent of domestic quarrels, 77 per cent of outrages against public decency were due to drink Against the many afflictions which attack man, against the large number of contagious maladies, epidemic or other, the characteristic of the healthy individual is his organic resistance, which enables him to triumph over all the assaults from his most terrible enemies—microbes The drunkard, on the other hand, has lost all resistance, and falls an easy prey to disease At 40 he is already an old man, his tissues are degenerated, so that he makes the worst of patients It is not the richer classes in France who saturate their bodies with alcohol, because they know better, but the lower classes, and especially the workmen who are ill-fed, clothed, and lodged In Brittany, however, women of good position give themselves up to alcohol Out of 107 young married women who died from drink 8 were sterile, and of the 99 others there only remained as posterity 6 sickly children On the other hand, these same women had 28 children before having taken to alcohol who are very healthy, showing what the others might have been if the mothers had led a sober life What is still worse,' continued Dr Lannelongue, 'is the fact that the passion of the parents is transmitted to the children The drunkard engenders an offspring with the same tendency, be they girls or boys, and curious to say, they begin to drink at the same age that the father began to drink'" Dr Lannelongue, who spoke for nearly two hours, interrupted by frequent applause, concluded by appealing to the government to take under its own control the manufacture of alcohol, and to forbid entirely all those liquors made from essences, and more especially from absinthe

Health Reports —The following health reports of infectious diseases have been received by the Supervising Surgeon-General of the Marine-Hospital Service

SMALLPOX—UNITED STATES

New York Brooklyn, August 10 to 17, 1 case
Texas Eagle Pass (smallpox camp), to August 18, 143 cases, 35 deaths
Tennessee Memphis, July 1 to August 7, 10 cases, Shelby County, July 1 to 31, 17 cases
Philadelphia July 17 to August 16, 18 cases, 1 death

SMALLPOX—FOREIGN

Antwerp July 20 to 27, 2 cases
Buda Pesth July 22 to 29, 2 cases
Calcutta June 30 to July 6, 6 deaths
Guayaquil July 19 to 26, 8 deaths
Madrid July 22 to 29, 1 death
Nogales August 3 to 10, 5 cases, 1 death
Odessa July 20 to 27, 7 cases
Rio de Janeiro July 13 to 20, 40 deaths
St Petersburg July 20 to 27, 1 case

CHOLERA

India Bombay, July 2 to 9, 1 death, Calcutta, June 30 to July 6, 22 deaths
Japan Hiogo July 13 to 20, 85 cases, 74 deaths, Nagasaki, July 5 to 12 29 cases 20 deaths
Russia Volhynia June 9 to 22, 57 cases, 20 deaths
Turkey Mersine, June 18 to July 16, 410 cases, 235 deaths,

Tarsus, June 18 to July 16, 203 cases, 148 deaths, Adana, June 18 to July 16, 660 cases, 305 deaths, Sis, July 1 to 10, 4 cases, 2 deaths, Karszulcadric, July 9, 10 cases, 2 deaths, Hatchin, July 1 to 8, 14 cases, 7 deaths, Karatasch, June 30, 23 cases, 27 deaths, Messis, June 20 to July 11, 17 cases, 8 deaths, Alan Sinar, June 30, 12 cases, Pajas, July 1 to 9, 26 cases, 24 deaths, Bulanik, July 1 to 13 35 cases, 22 deaths, Jumurtalik, July 10 to 13, 7 cases, 5 deaths, Marasch, June 30 to July 14, 25 cases, 15 deaths, Padzardjik, July 8, 7 cases, 7 deaths Hadji-Bil (Lazaretto) July 7, 3 cases, 3 deaths, Gok Sun, July 8, 8 deaths, Karahissen, July 7 to 11, 11 cases, 7 deaths, Husu Mansur, July 8 to 10, 10 cases, 4 deaths

YELLOW FEVER

Cuba Cienfuegos, August 4 to 11, 1 case, Sagua-la-Grande, August 3 to 10, 4 cases Havana, August 1 to 8, 70 cases, 25 deaths

Brazil Rio de Janeiro, July 13 to 20, 14 deaths

Mexico Vera Cruz, August 1 to 8, 7 deaths

NECROLOGY.

J R BRANDT, M D, of Chicago, August 18, aged 57 He was born in New York and after graduation at Oberlin College taught school in Kentucky, becoming State Superintendent of Public Instruction in that State In 1886 he came to Chicago and began the practice of medicine, and in 1890 was appointed a member of the county hospital staff He was elected county commissioner in 1890 Only three weeks since, Dr Brandt, *in company with* Dr E F Wells *and the editor* of this JOURNAL called on President Healy and urged the appointment of specialists to the control of the Cook County Hospital for the Insane at Dunning That President Healy did not see fit to adopt the suggestion, was no fault of Dr Brandt's He then seemed in his usual health and spirits, and no one would have supposed him to be so near his end His last public work was directly *in the line of his profession* and in the service of humanity

JAMES GORDON, M D of Carlyle, Ill, *August* 11, aged 77 years He was born in Huntsville, Ala, and began the practice of medicine in 1838 Thomas McKennan, M D, of Washington, Pa, August 8, aged 70——Rees Davies, M D, of Wilkes Barre, Pa, August 10, aged 58——D L Manchester, M D, of Waupaca, Wis, August 11, aged 62——William S Battles, M D, of Wooster, Ohio, August 9, aged 69——Samuel C Metcalf, M D, of Fort Wayne, Ind, August 10, aged 51

MISCELLANY

Aid for Industrial Home for the Blind of Chicago—The Illinois Legislature has appropriated for this institution for working capital to be permanently employed, $10,000, for completion of third and fourth stories of dormitory, $7,000, and for expenses, per annum, $10,000

Surgeon-General James B Tryon, *of* the Navy, has been elected a member of the Red Cross Society of Venezuela He has also been awarded the bronze medal of that Society in recognition of the services he rendered the wounded at La Guayra during the revolution *of* 1892, when Dr Tryon was attached to the flagship *Chicago*

Liability in Michigan of Married Woman to Pay Physician—In Michigan a married woman who lives with her husband is liable for medical services and medicines furnished to her and to her daughter by a former marriage, the Supreme Court of that State holds, in the case of Goodman v Shipley, decided May 21, 1895, when it was done at her request, the charge made against her, and she promised to pay therefor

In the Interests of Science—Among the appropriations made by the State for the University of Illinois in which the medical profession is more or less interested, are the following for the increase of scientific cabinets and collections, $1,000, per annum, for improvement in the chemic laboratory, $5,000, for a laboratory for vegetable *physiology*, $2,000, *for* a small temporary building and equipment for work of the biologic experiment station on the Illinois River, $2,500, and *for half of the operating* expenses of said station, $1,500 per *annum*

Illinois State Laboratory of Natural History—Among its other appropriations, the Illinois Legislature has set apart $1,000 for the improvement of the library of the State Laboratory of Natural History, $1,500 per annum for the experimental *investigation* of the contagious diseases of insects, and $1,500 per annum for one-half of the expense of the Illinois Biologic Station

Provision for Insane of Illinois Soldiers' and Sailors' Home—Members of the Illinois Soldiers' and Sailors' Home who are now insane, or who hereafter become insane, the Illinois Legislature has enacted, may be committed to any of the State hospitals for insane persons, except the hospital *for the criminal* insane, and, being wards of the State, they shall not be credited to any county, but to the State at large

Provision for Rebuilding the Southern Hospital for the Insane at Anna—For rebuilding in a thoroughly fireproof *manner* the south dormitories and wings, and the *administration building* of the Southern Hospital for the Insane at Anna, Ill, recently destroyed by fire, including the costs of the improvements, *removing débris* and repairing the damage done by fire *and cost of repairing the* same, *the* Illinois Legislature appropriated the sum of $171,970, or so much thereof as may be necessary, payable to the trustees on their order, or their order approved by the Governor, in sums not exceeding $85,000, as the work progresses

A Physician Entrapped and Robbed—*Dr* George Drury, a Brooklyn physician, was the victim of the most audacious as well as well-planned robbery that has been experienced by any practitioner in many a day He was decoyed to a vacant house, gagged and securely bound, and then stripped of his valuables and money while a knife was held at his throat The robbers carried out their plot without a hitch, and had taken flight more than half an hour before Dr Drury recovered consciousness and released himself *from his bonds* The telephone was the *instrumentality of the* summons in this case Dr Drury remembered that he recently had a patient whose name resembled that which was used over the telephone, and made reply that he would give the case his immediate attention Whether the robbers knew of Dr Drury's attendance upon a patient bearing the same name as that which they employed, or whether they chanced upon the resemblance, it shows a possible danger that lurks in telephone calls Look out *for the unknown* telephone caller, whether the name used has a genuine ring or not! It is very easy for a designing rogue to work in with a coachman or other physician's employe and worm out the name of some patient that will fit in with a scheme of robbery It may safely be predicted that we have not heard the last of this branch of thievish enterprise Other cities beside Brooklyn will be its field of experiment The telephone is a great labor saver, but it may be the means of loss of life to some medical practitioner as well as being the tool of assault and robbery

Illinois Vaccine Laboratory—The sum of $3,000 was appropriated by the Illinois Legislature at its last general session for the purpose of establishing, equipping and maintaining a laboratory in connection with the State University at Champaign, for the propagation of pure vaccine virus The trustees of the University, it is provided, shall have the management of said institution, though the State Board of Health is to exercise supervision of the methods of propagation and shall certify to the purity of all products All physicians and health officers within the State are to be furnished with the product of the laboratory at the cost of propagation A report of the management, together with a statement of the receipts and disbursements is to be made and included in the annual report

Typography a Roman Art —It is stated on the authority of the *Foia Diecesana* the official paper of the Greek Roman bishopric of Caransebes, in South Hungary, that unmistakable evidence of the art of typography has been discovered among the ruins of Bersovia, in Dacia, an old province established as a colony by the victorious Romans on territory then acquired by them The discovery is attributed to the architect and archæologist, Adrian Diaconu, who, it is said, found evidence of the use even of movable type by the Romans at this colony and particularly by those of the fourth legion, Flavia Felix Two members of the Bucharest Scientific Academy confirm Diaconu s opinion, having examined the evidence and declared the discovery to be of the utmost importance If these facts be really true, the honor of inventing typography will no longer reside with the Germans nor with the Italians who attributed the discovery to Panfilio Castaldi —*Scientific American*

The Upas Tree.—During his recent stay in Java, Professor Wiesner ascertained some interesting particulars with reference to the celebrated Upas tree, *Antiaris toxicaria* Contrary to the general impression that this tree is not uncommon in Java and the Sunda Islands, an impression manifested by the statements in the leading text books, Professor Wiesner learned that the original specimen described by Leschenault has been felled, and in the whole of Java there were but three individual trees belonging to the genus and closely allied to *A toxicaria* Of these three one was found by Dr Greshoff to be innocuous, and was therefore *A innoxia Blume*, a species supposed by many botanists to be only a variety of *A toxicaria* The second tree proved to be poisonous one drop of the latex being sufficient to kill a dog, the third has not been examined The tree has, however, been cultivated in the botanical garden, and there are in the plantation at Tjikomoh about seventy specimens Neither in the botanical garden nor in the plantation could any ill effects be observed, even after a person having been for some time in the neighborhood of the trees, so the accounts of the poisonous nature of the exhalations from it are much exaggerated Dr Burck has shown that the plant gives off no injurious vapors, and that the latex is poisonous only when it passes through a wound into the blood —*Scientific American*

Cost of Caring for Some of the Illinois Unfortunates —There was appropriated by the Illinois Legislature for the purpose of defraying the ordinary expenses of the following institutions, for the year beginning July 1, 1895, as follows the Northern Hospital for the Insane, $150,000, the Eastern Hospital for the Insane, $308,000, the Central Hospital for the Insane, $165 000, the Southern Hospital for the Insane, $125,000, the Asylum for Insane Criminals, $26,000, the Institution for the Deaf and Dumb, $100,000, the Institution for the Blind, $52,000, the Asylum for Feeble Minded Children, $80,000, the Charitable Eye and Ear Infirmary, $26,000, or a total of $1,032,000 Beside this amount, there was appropriated, for these nine institutions, some $241,300, to be expended in certain specified directions, but principally for repairs and improvements

College of Physicians of Philadelphia.—The William F Jenks memorial prize of $500, under the deed of trust of Mrs William F Jenks, has been awarded to A Brothers, M.D of 162 Madison Street, New York, for the best essay on ' Infant Mortality During Labor, and Its Prevention " The Prize Committee also reports as highly meritorious the essay on the same subject bearing the motto ' Vade Mecum " The writers of the unsuccessful essays can have them returned to any address they may name, by sending it, and the motto which distinguished the essay, to the Chairman of the Prize Committee, Horace Y Evans, M D, College of Physicians, Philadelphia

James V Ingham
Charles S Wurts,
I Minis Hays,
Trustees of the Wm F Jenks Memorial Fund

British Medical Association —Our contemporary, the *British Medical Journal*, grows enthusiastic in speaking of the recent meeting of the Association of which it is the organ It says that Sir Russell Reynolds has presided at the greatest assembly that our profession has ever known, and in saying this it does " not forget the great International Congresses either in our own country or abroad, in more numbers, for aught we know, some of these meetings may have surpassed the Association meeting of this week English medicine, has, however, this week shown itself in numbers vast enough to fire the most sluggish imagination, while on the other hand, the age, standing, and prosperity of our Association give a unity, a dignity, and an impressiveness to its chief assemblies which are wanting to the more or less motley and fortuitous gatherings which have not a national character " The parallelism between the 1895 meetings of the two great national Associations is matter for congratulation

Women Doctors in Russia —Women desirous of studying medicine in Russia were formerly obliged to gain their special knowledge in foundling homes, lying-in hospitals and convents Later on, they were granted access to the university courses and the schools for assistant surgeons It was not until 1872 that more complete courses of four years were instituted in connection with the Academy of Medicine for the instruction of midwives In 1876 a fifth year was added and the studies somewhat assimilated to those for men In this field the women soon acquired a brilliant and well merited reputation During the time of the war of 1877–78 the services they rendered were generally recognized and the Emperor decreed them the title of "women doctors " In 1877 the first class of women doctors was turned out, after this, the medical courses having passed from the control of the Academy of Medicine to that of the Saint Nicholas Hospital, many hundreds of women were enabled to pursue their studies and are now successfully practicing in country communities and in the urban hospitals Notwithstanding their incontestable utility, these courses were suppressed by the military administration in 1886, and then the women begged support from the municipal province of St Petersburg The municipality answered that it saw no hindrance to assuming charge of these courses for women on condition that they relinquished the urban hospitals, that the outlay for the courses did not exceed 15,000 roubles annually, and that the Minister of War would grant a certain sum for their maintenance These conditions were all complied with and a sum estimated at 700,000 roubles has accumulated, yet the courses for women are not yet re-opened However, it is expected this will be done shortly [1]

Hospital Notes

The German Society in charge of the Protestant Deaconess Hospital, at Indianapolis, Ind, announces that the new hospital will soon be ready for occupancy ——Plans have been prepared for the construction of a new contagious hospital at Paterson N J ——An effort is being made in Buffalo, N Y, to establish a German hospital in that city

Philadelphia Notes

Smallpox —There are about twenty cases of smallpox in this city, all in the Municipal Hospital The local Board of Health has directed that hereafter all patients suffering with variola in this city shall be removed to the hospital, where a special isolating pavilion has just been erected for the exclusive treatment of such cases

Fire in a Hospital —Fire occurred August 14 in the outbuildings used as a storage house and laundry at the Philadelphia Hospital (Blockley) in the Female Department By the prompt action of the attendants, the patients were removed from the adjacent wards to a remote wing of the building. Good service was rendered by the well-trained fire crew composed of resident physicians and attendants and owing to the care of the nurses no panic occurred and no patient was injured The damage to the buildings and storehouse was about $30,000, the hospital proper was not injured

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[1] Jour de Med de Paris 1895 No 27

The State Hospital for the Insane for the Southeastern District at Norristown has purchased adjoining property of about eighty-five acres for a sewage farm, to protect the Schuylkill River from pollution by that source

Washington Notes

Health of the District —The report of the Health Officer for the week ended August 10, is as follows number of deaths (still-births not included) white, 66, colored, 74, total 140 The effects of the extremely warm weather are manifest in the increased death rate during last week From 103 as reported by the Health Department week before last, the number of deaths increased to 140 This gives a death rate of 26 9 as against the annual normal of 23 05 Diseases of the brain (11), heart (10), and diarrheal complaints (32), compose mainly the increase Nearly one-half of all the mortality was of children under 10 years of age, 58 of whom were 1 year old From the dangerous contagious maladies there were two fatal cases of diphtheria, one of scarlet fever and one from whooping cough Four deaths from typhoid fever occurred and two from heat stroke In other respects the health of the city is favorable for this season of the year

Fined for Violating Garbage Rules —A number of persons have been fined in the police courts for failing to provide the regulation "slop tub" The penalty is a fine of not less than $5 nor more than $50 or imprisonment in the work house for from five to thirty days

Fell from the Window of the Children's Hospital — The coroner was called upon to investigate the circumstances attending the death of the child who fell from the second story window of the Children's Hospital on the 12th instant

A New Way of Beating the Doctors and Druggists —An enterprising gentleman has invented a new trick for securing money without working for it, and has victimized a number of physicians and druggists here He calls on the doctor, has him prescribe, and in payment presents a check, the amount of which is larger than the fee The doctor, anxious for the fee, accepts the check and pays the patient the balance The gentlemen takes the prescription to the druggist, who fills it, and accepts a large check in payment, advancing the balance The banks on presentation declare the checks worthless

Washington Needs a Morgue —Possibly no city in the United States is less provided with a morgue than Washington Particular attention was called to the fact last week, when the decomposing body of a young man, in a rude ice box, permeated the neighborhood with foul odors The present morgue is a small room about 10 x 15 feet, poorly lighted and ventilated, adjoining the stables of the sixth precinct police station It contains but one table and the above mentioned old-fashioned ice box One spigot-furnishes cold water The room next, is far superior, but is used for the storage of the patrol wagon It is well remembered that at the time of the Ford's Theater disaster, the dead were placed on the concrete floor, presenting a most disgraceful and shocking scene to those who called to identify the bodies of their friends or relatives

Enforcement of Garbage Regulations —The time allowed by the Commissioners to the housekeepers to comply with the garbage regulations has elapsed, and within a few days proceedings will be instigated in the police court against those who have failed to comply with them These regulations have been neatly printed on a card and distributed throughout the city A perusal of them at this time will be of benefit Among other things, the householder must provide a suitable receptacle for garbage, provided with a tight cover, and keep the same in repair It must be placed between 7 o'clock in the morning until 6 o'clock in the evening in a place convenient and easily accessible to the collector Another important provision is that each householder having a street and alley entrance shall place at the alley entrance the street and number of the house Failure to comply with these regulations makes the offender liable to a fine of not more than $50, nor less than $5, and in default of payment, imprisonment in the work house for not more than thirty days

Closing the Wells —Gradually the public wells of the city are being abandoned and filled There has been no sweeping order, but each day or so, an order goes forth closing a well There are comparatively few left, and it is believed before another summer comes, not one of the old original wells will be open The Commissioners, however, believe in pure water, and a determined effort will be made at the next session of Congress to get an appropriation sufficient to sink a number of deep wells all over the city The experiments recently tried upon these deep wells were so satisfactory that the Commissioners became convinced that deep wells were the only proper ones for Washington There are two of these wells in the city at present, and more would have been sunk if there had been sufficient appropriation

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from August 10 1895 to August 16, 1895

The leave of absence granted Capt Junius L Powell, Assistant Surgeon U S Army, is extended one month

The extension of leave of absence on account of sickness granted Major Clarence Ewen, Surgeon, is further extended two months on account of sickness

The leave of absence for seven days granted to Captain R J Gibson, Assistant Surgeon, is extended twenty three days

Capt Louis S Tesson, Assistant Surgeon is relieved from duty as Attending Surgeon, at Headquarters Department of the Missouri and Examiner of Recruits at Chicago Ill, and ordered to Fort Ethan Allen, Vermont, for duty relieving Capt Aaron H Appel, Assistant Surgeon Capt Appel, on being thus relieved, will report for duty as Attending Surgeon and Examiner of Recruits, Chicago, Ill

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending August 17 1895

August 14 Assistant Surgeon M S Guest to the "Minnesota"

Marine-Hospital Changes Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the fifteen days ended August 15, 1895

P A Surgeon Lucien Wasdin granted leave of absence for ten days, Aug 1, 1895

P A Surgeon L L Williams, to proceed to South Atlantic Quarantine Station on temporary duty on being relieved by Assistant Surgeon E Prochazka Aug 6 1895

P A Surgeon W P McIntosh, granted leave of absence for thirty days from Sept 1 1895 Aug 5, 1895

P A Surgeon G M Magruder to assume command of smallpox camp, Eagle Pass, Texas Aug 10 1895

P A Surgeon H D Geddings, granted leave of absence for thirty days on being relieved by P A Surgeon L L Williams

P A Surgeon B W Brown, to proceed to New London, Conn, as Inspector Aug 15, 1895

P A Surgeon M J Rosenau, to proceed to Eagle Pass, Texas, for temporary duty Aug 4, 1895

Assistant Surgeon Jas A Nydegger to assume charge of Detention Camp, Waynesville, Ga, in addition to other duties Aug 14, 1895

Assistant Surgeon E Prochazka, to proceed to Charleston S C, for temporary duty Aug 6 1895

LETTERS RECEIVED

Ashby, T A Baltimore Md, Alma Sanitarium Co, Alma, Mich
Bassett, J N Jr Canton, N Y
Chesman, Nelson & Co, St Louis Mo, Coil, H E, Middle Branch, Ohio, Cone, Andrew, New York, N Y, Collings, S P, (2) Hot Springs, Ark
Davis, Chas G, Chicago, Ill
Eaton, F B, Portland, Ore
Field, A G, Des Moines, Iowa
Gihon, A L, Washington D C, Gaston, J McFadden, Atlanta, Ga
Hildreth M L, Lyons, Neb Hotzapple, G E, Seven Valley Pa, Hummel, A L, (2) Philadelphia Pa Hansen, Harold C, New York, N Y
Ingraham, C W, Binghamton, N Y
Kelly, W R, Watonga Okla Ter, Kierulff, B F, Marshalltown, Iowa, Kansas City Adv Co, Kansas City, Mo
Lentz, Chas & Sons, Philadelphia, Pa
Milliken, Jno F & Co St Louis, Mo, Michael, M., Chicago, Ill, Maltine M'f'g Co, New York, N Y
Newman H P, Chicago, Ill
Pepper, Wm, Philadelphia Pa, Parker, W T, Groveland, Mass, Purnell, J B, Snow Hill Md
Rossington, Smith & Dallas, Topeka, Kan
Stearns, F & Co Detroit, Mich, Spalding, W C, New York, N Y, Sheiffelin & Co, New York, N Y
Taylor, R H, Griffin, Ga
Vincent D, LaPorte, Ind Valentine, F C, New York, N Y
Woolsey, E H, Oakland, Cal Walker H O, Detroit, Mich, Woodbridge, John E, Youngstown, Ohio
Zeigler, S L, Philadelphia, Pa

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ADDRESS

CHAIRMAN'S ADDRESS

Read in the Section on State Medicine, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7 10 1895

BY LISTON HOMER MONTGOMERY, M D
CHICAGO, ILL.

While in attendance at the forty-fifth annual meeting of the American Medical Association, which was held in that great metropolitan city located at the entrance of the Golden Gate where the commerce of all nations enters that wonderfully progressive and healthful State, the honor was conferred upon me in being elected chairman of this model Section for the year 1894-95 In accepting so much honor I am not unmindful of the responsibility that has devolved upon me On the other hand, I am profoundly cognizant of my inability to discharge the duties as your chairman in as efficient a manner and to such an eminent degree of satisfaction as did my immediate predecessor, and others who have been chairmen of the Section prior to this time

As your presiding officer, I desire most cordially and sincerely to return my heartfelt thanks to the members of the Section, and to earnestly request your kind and courteous indulgence in what may be my apparent or real shortcomings

It is with pardonable pride that I am permitted to congratulate you on the presence of so large an attendance of ladies, delegates and members, and the unprecedented number of essays and papers announced to be read by the official program for this Section

History records the fact that this is the third time the annual gathering of the Association has convened at Baltimore, but it is the first time that the Section on State Medicine has met in this city since its organization

Not one of the great men are alive to day who were officers of the Association at the time the first annual meeting was held in this city, and not to exceed two of the officers of the Association in 1866 are living One of these was First Vice President of the Association at that time, whom it affords me sincere pleasure to greet and welcome to-day I refer to our venerable professional colleague and friend, ex President James F Hibberd of Indiana, of whom I can say, to know him is to love and esteem him

(After a glowing tribute to Baltimore and all its belongings the speaker continued) During the past few years, much has been written upon public health, preventive medicine, State medicine, domestic sanitation and the science of public hygiene, almost synonymous terms, I believe, for us to discuss at this time Not until recently, however, has this department, or branch of medicine become so prominently recognized before the public And eac year it is being recognized to a greater degree in broad field of usefulness Its scope is widening such an extent that State medicine not only embrac the subjects of general sanitary supervision of t country, including quarantine in all its details, d mestic hygienic laws which embrace the pure-foo question for the people, and should, in the main least, include the topic, which well may be terme the physiological and medical uses of alcohol

Isolation hospitals is another very important sub ject that will be discussed at this meeting of san tarians Bacterial life and microorganisms of variou kinds will receive due consideration by the autho of the various essays and papers bearing upon thos subjects and will be ably discussed by the learne gentlemen of the Section

While there are a great many other subdivision which you, as scientists, are familiar, with that ver properly belong to and should be classified with th Section, your chairman will scarcely more than enu merate a portion of them, nor will he enlarge upo them in this address

PHTHISIS PULMONALIS

The field of study of the habitat and insidiou ravages of microbes, micrococci, bacilli, etc , is vast one, too marvelously comprehensive for me t do more than give the subject a passing review Lik the subject of electricity in all its intricate and various ramifications, the most marvelous discoverie of which may be looked for in the future, so, too, wil the study of this form of life lead to hitherto unknown discoveries in the treatment of disease Tha germs oftentimes do their work insidiously, slowl but surely, is evident, where, for instance, in some o the prisons and eleemosynary institutions of th country, subjects when they enter them in robus health sometimes within a few months becom emaciated and physical wrecks In this respect phthisis pulmonalis takes the lead and fastens it tentacles upon this class of unfortunates, and a tuberculosis is the greatest scourge the human rac has ever encountered, it is the most prevalent typ of disease that criminals or the indigent class ar subjected to in the institutions named Notwithstanding, as in the past, scientific advancement i the future bacteriologic investigation of this intractable malady will, we believe, surely bring its ravages and destructive agents under a more certai degree of control Sanitaria throughout variou parts of the country are being established for the prevention, care and treatment of phthisis Each o these sanitaria have a well equipped gymnasium tennis courts, lawns, etc , and otherwise are provided with facilities necessary to combat this destroyer o human life

The newest and latest therapeutic agents used in the rational treatment of phthisis are pilocarpin and protonuclein The former remedy was introduced by Dr Louis Waldstein, of New York At Berlin he has practiced the hypodermic method by successive injections of minute doses of it into the tissues of tuberculous subjects As a result of this, there seems to be a gradual stimulation of the lymphatic system In this connection I may add, that it is claimed also, that cases of lupus vulgaris of many years' standing are relieved by using the remedy subcutaneously Its activity, or pathology of action, as in tuberculosis, is the promoting, or increase of the secretions of the lymphatic glands

Personally, I am not yet an enthusiast upon this so called new discovery in the treatment of a disease that has baffled science for so many centuries, and to my mind their therapeutic value is overestimated, while pilocarpin may possibly do all that is claimed for it in the absolute cure of consumption, its action, if what is claimed for it is true, might be regarded more in the nature of a prophylactic, or preventive to a certain degree if used in the earliest stages, of phthisis, or even retarding the reinfection of a patient by fortifying his blood against subsequent inroads, or further invasions of the tuberculous difficulty, than as a curative agent of the disease after it has thoroughly manifested itself

Toxalbumin, or antiphthisin of Klebs, is another of the so-called toxins used by that eminent German bacteriologist as a preventive as well as curative agent of tuberculosis when used in the early stages of the disease, and it is reported by Dr Karl von Ruck, of Asheville, that he has practiced upward of twenty thousand inoculations of antiphthisin and has uniformly derived beneficial results If this is true, it seems to me it should be more generally known

While it is our duty to be ever on the alert to perform and suggest anything that will ameliorate the physical condition of our fellow-man, climatic conditions must be studied (everything else being equal) in the prevention and treatment of this class of our patients at any stage of the disease That altitudes of moderate height, where the ozone of pineries in the mountain regions should be selected for at least a certain class of those afflicted in this manner is to my mind a *sine qua non* That nature's ozone is a germicide and antiseptic is a well known fact, which doubtless all of you have personally observed Its prophylactic and hygienic properties will have the tendency to augment the oxyhemoglobin in the circulatory system, and I believe it is the opinion of conservative men also, that this potent remedy, in addition to its healthful tissue strengthening properties, through its action as above outlined, will sterilize the alimentary tract In following these directions a goodly percentage of patients will result in complete recovery

Other suggestions occur to us as to the prevention of phthisis, and especially where the disease is in its incipiency, which belong more properly in the treatment of the disease A movement is on foot by those who are philanthropically inclined to erect sanitaria for the gratuitous treatment of consumptives in some of the southwestern portions of our country, notably in Texas, New Mexico and Colorado Homes, or sanitaria of this kind for the indigent worthy class are a step in advance in our Christian Republic, to rescue thus prolong many valuable

Especially will these institutions be erected for the outdoor treatment of the more desirable class. Doubtless you all have heard of this proposition from other sources, but to me the topic is of so great interest that you will pardon me for reiterating it, in the hope perhaps that great benefit will be the result, if even the life of but a single case is prolonged or saved While pure milk, along with strict attention to a well regulated meat diet, including fats that are easily combustible, and the judicious use of carbohydrates are helpful In addition to the foregoing suggestions, there is a special value to be attributed to systematic physical exercise in cases of those disposed to phthisis Psychologic therapeutics, or psychical sanitation, if I may be permitted to use this word, may very properly, I think, be classified or considered an important factor in the prevention as well as treatment of a not inconsiderable number of this class of patients In a word, tissue metamorphosis of the ascending or building character is a much sought for result in the treatment of this malady. The prognoses, of course, will depend mainly upon the fundamental disease and the inroads it has made in a particular case

LEPROSY

At the meeting of this Section in San Francisco in June, 1894, my friend, Dr Henry S Orme, of Los Angeles, read an elaborate paper upon leprosy The author therein stated that he believed there were more cases of the disease in California and elsewhere in the United States than was known Your chairman fully indorses those views To his mind there no doubt are isolated cases of leprosy in various parts of the country, notably in the States of New York, Louisiana and California, and possibly, also in the central, northwestern and other southern portions of the country, that are not publicly known And while the Mosaic laws directed that all lepers be driven out of their homes, and their effects burned, such a general mandatory law if enacted throughout our civilized land would seem at first glance to be cruel and inhuman But when we recall Biblical lore and the awful dread of what leprosy was to Moses and his people, or is to the Hawaiians and the inhabitants of the Philippine Islands, and of the Chinese Empire today, and which conditions actually exist among our own people where leprosy prevails, it appears to me that a pronounced movement should have long ago been inaugurated to establish at some remote point in the United States one or more leper hospitals, or one or more colonies for the lepers of this country to dwell Recently, the secular press as well as various medical journals published an account or report of the death of a leper in New York city, and that there were many more cases of leprosy in the State of New York That judicious and humane laws should be enacted for the compulsory segregation of this class of human beings is no longer a mooted point in my opinion A colony for this class of afflicted people where they could live by themselves, should be established and maintained by the United States government Treatment should be afforded them, and their condition ameliorated by every means that sanitary science can devise

Any person who is suffering from a well defined stage of leprosy should be required to live there Call these places what you will, sanitaria, or leper hospitals, a suitable institution should be provided their lives may be as enjoyably and as profitably spent as possible, exercising great care that the intermingling of the sexes be prohibited In this connection I may state that more than one year ago a movement was inaugurated for the establishment of leper hospitals, penal or reformatory institutions, at New Orleans and San Francisco I am a firm believer in the segregation of this class of patients under the provisions or an analogous one to that just outlined By so doing, the carrying out and adopting this plan judiciously in a thorough and painstaking manner, State medicine will be the means within the next two generations of banishing leprosy from our land, in the meantime, preventing foreigners who have the disease from landing upon our shores

In the matter of the United States government having control of this class of people, I quote the following extract from the pen of Dr Albert S Ashmead, of New York city, in our JOURNAL of April 13, 1895

"I take in such affairs a higher ground than that of reporting a certain case to the local board of health, and according to my opinion, such cases should be *reported to a United States health officer, and that* the State or city board of health should have nothing to do with them "

While I agree with the Doctor in the first part of his remarks, I should not be willing to go on record as accepting the latter portion of his theory in this class of cases—no more than such theory would apply to the ordinary contagious or infectious class of diseases

With reference to the presence of bacilli in leprosy, Dr R H L Bibb last year reported having examined thirty cases of tuberculous and five cases of macular leprosy covering a period of ten years, and never failed to find them in the secretions of tubercles, in blood drawn directly therefrom, in discharges from leprous ulcers, and occasionally in the sputum and the secretions from the nose In the treatment, he and others have used Chaulmoogra oil, internally and externally While this remedy is not regarded as a specific, if the treatment is begun early and persistently and unremittingly continued, associated with proper food and hygienic measures, many cases will recover, while many other cases, probably the majority, will receive no benefit

Regarding Morvan's disease, scleroderma, Raynaud's disease, syringomyelia, etc , as being merely varieties of leprosy, these are hardly within the scope of this address to discuss, except to state that the preponderance of clinical and bacteriologic evidence goes to show that such is not the case, although these diseases in certain stages may have symptoms closely analogous to those of leprosy

There is not one of us, I doubt, but entertains the view that variola, diphtheria, scarlatina, syphilis, leprosy, tuberculosis, cholera, actinomycosis homines, la grippe, anthrax, yellow fever and other specific diseases, whether they are zymotic in character or otherwise, as well as possibly pneumonia and carcinoma, whether they be sporadic in origin or not, that these are contagious, infective, endemic, or epidemic in form under certain conditions, particularly where climatic influences and sanitary environments are unhygienic in quality and kind I should like to include tetanus, trichinosis, myxedema, etc , if time permitted Whether, according to Dunglison, zymotic diseases are produced by "some morbific principle acting on the system " or, as is at present recognized, that each of them are of germ origin I do not wish to be understood, however, as differing from able scientists and teachers in the belief that inoculation and transplantation of cancer from man to a lower animal will produce the disease On the other hand, I believe this procedure rarely, if indeed, is ever successful in producing it, while it is asserted by various writers for myxedema, that this variety of tumor is successfully combated or treated by the oral administration of thyroid tablets or extract of the thyroid gland in some form

SMALLPOX

This disgusting malady should never be permitted to become epidemic or very rarely, indeed, of an epidemic character in any of the larger inland municipalities where there is a well equipped board of health That it should be permitted to take such a course is, in my opinion, due to a lack of thorough and early measures to stamp out the disease, allowing that cases are sometimes concealed for a time from the authorities by ill-advised and unwise friends, this *can not long remain* so, and when discovered, thoroughness and radical means should be promptly adopted, in all that this term may imply, to suppress any further outbreak of the disease and to prevent its diffusion Vigilance, promptness and efficiency should be the watchwords to characterize the executive health officer in any community From him the people have a right to expect proficiency and competency, and if this servant of the people is unmindful of his duty it is little less than criminal negligence on his part, in not taking most thorough and prompt measures to quell an outbreak of the disease and use radical measures to stamp out the contagion that may be lurking in the premises

Dr Thomas Stevenson, of London, in his "Treatise on Hygiene and Public Health," says upon this topic "Formerly, protection against smallpox once acquired was looked on as permanent and absolute, cases of secondary smallpox, usually very mild, we called horsepock, swinepock, etc , just as in Jenner's time the variolous nature of post-vaccinal smallpox, also very mild, as a rule was denied From whatever cause obtained, the amount of protection varies according to the thoroughness of the protective procedures

"Severe smallpox gives more enduring protection than mild smallpox Smallpox inoculation gives most protection when followed by eruption, and a complete and multiple vaccination gives more lasting protection than does vaccination resulting in a single small vesicle

"In the present century a second attack of smallpox is less frequent than formerly because, as a result of the practice of vaccination a primary attack of smallpox usually comes later in life, so that the protection it affords does not wear off in time readily to allow of a second attack

"Protection by smallpox inoculation or variolation was introduced into general notice in England in 1721 The practice under the name of *buying* the smallpox seems to have existed in Wales from time immemorial, following the introduction of the practice in 1721 The simplicity of the eastern operation was discarded for a severe operation with untoward results, which soon brought inoculation, as a whole, into disfavor After 1740 it began to revive, and in the hands of the Suttons and of Dimsdale it became a mild and fairly safe procedure, with only one death in perhaps three or four hundred cases, but it perhaps tended to spread the disease by atmospheric infection, and it is a moot question whether in this way it did not do as much harm as good "

Under the heading, vaccination and revaccination, the historical methods so well known are dealt with, as also the relationship of smallpox to cowpox The whole tendency of the evidence is to show that vaccinia is as Jenner had supposed it, variola of the cow, and that the virus of human smallpox is so attenuated in the bovine animal as to be deprived both of its quality and atmospheric connection and of its tendency to cause a generalized eruption, and that in this way the change in the calf from variola to vaccinia has the effect of removing the objectionable and retaining only the valuable part of the original disease

DIPHTHERIA

The prophylaxis and latest method of treatment of this oftentimes malignant malady scarcely needs mention, for this is already fresh in the memory of us all, and includes all that is implied in the new serum-therapeutics That the antitoxin treatment in diphtheria, whether it is the use of protonuclein, previously alluded to, or the serum derived from the blood of the horse, is in antagonism to bacterial poisoning appears, to say the very least, philosophical, and while the present methods may not be those of perfection, like the study of electricity, as previously stated, the wonders of which already have been achieved are not to be compared to what hoped-for results may bring about So that, what to-day may appear to be crude as regards electricity may, on the same principle, be regarded as imperfect in the treatment of diphtheria in future, as advances are made in the use of antitoxin diphtheriticus Even admitting all that is claimed for antitoxin, I would not advise the discontinuance of the older time-tried emedies, but combine the two when necessary in at class of cases, particularly, where the toxicity of e disease is profoundly marked by staphylococci and streptococci

Another powerful remedial agent has recently been introduced, and remarkable results have been already attained by its use in the treatment not only of diphtheria, but in scarlet fever and some of the milder classes of eruptive fevers I refer to nucleinic acid This agent has the effect of neutralizing or combating the poison diffused by the staphylococci Its use is also recommended as a tonic, as well as to cope with or prevent the contagiousness of these diseases extending to others who may have come in contact with those already ill

SYPHILIS

I quote from the London *Lancet* of June 2-16, 1894, the following extracts

"The disease is widely spread in all parts of Russia, and in some districts is a veritable scourge In the Government of Tomsk in Siberia, the immigrant population is said to be decimated by it The medical department has therefore commissioned three medical experts, Drs Stepanof, Flitner and Tchapin, to proceed to Tomsk and to take what measures may be necessary to prevent the further spread of the disorder there

"The attention of the Indian Government has for some time past been called to the large and increasing amount of inefficiency caused by venereal diseases in the European army in India The question is a very grave one from whatever standpoint it is regarded Nor are the evils, bad as they are in India, restricted to that country, for the health of our troops in this respect is seriously affected at camps and garrison towns at home and abroad It must be always borne in mind that the effects of these diseases do not fall exclusively upon the individuals contracting them, but are often extended to other and innocent persons, and some of their remoter consequences are manifested in succeeding generations So far as the contagious disease acts are concerned, there can not be a doubt that they exercised a deterrent and restraining influence in regard to a number of thoughtless girls exposed to the temptation of urban life, and have brought fallen women within the sphere of moral and remedial influences, to say nothing of the beneficial effects of the acts on the outward aspect and decency of our (their) streets "

ERYSIPELAS, PUERPERAL FEVER AND BRONCHO-PNEUMONIA

Briefly, I may include that Dr Marmarek, a Parisian physician, has discovered a *new* serum which he has named "antistreptococcique," for the treatment of those maladies As this is not quite in the line of prophylaxis, I will omit further discussion of this "toxin" agent except to add that it has been used at the Pasteur Institute in Paris

CHOLERA

The destructive agency of the comma bacillus and its media in cholera Asiatica—or cholera nostra, by thoroughly neutralizing its surroundings has been the means of asphyxiating or stamping out through the various countries of Europe this depopulating malady Whether the disease will start anew in Russia, or the pestilence breed again as a result of the Chinese war, is a thought worth considering at this time For, during the hot weather months in China it seems as if there is almost always some kind of epidemic prevailing Should intelligence of this not improbable prophecy be realized and reach America, well may the authorities throughout Europe, as well as here, take thorough and prompt precautionary measures in adopting stringent laws to guard against the spreading of cholera in these countries

LA GRIPPE

We read of la grippe intoxication, and the antitoxic effect of certain drugs over this affection Quinin is a true antitoxin in their treatment, as well as prevention when suitably administered, for in la grippe, or if you prefer to call it influenza, there is a bacillus, and their infective activity is no doubt the cause of this oftentimes distressing malady As to the sequelæ, these are very numerous bronchitis, pneumonitis, nephritis, diseases of the nervous system, digestive tracts, etc I dare not mention more of them at this time, although by your permission I may be pardoned if I very briefly consider one or two of these so-called sequelæ

My observation in bronchitis, following an attack of la grippe is hygroscopically, when the temperature is lower than it normally should be, or when this condition is combined with moisture, it is most favorable for the development of germs causing the disease That they become most active, grow, and develop at such periods, I am well satisfied Conditions exist also to favor this malady so that it may become endemic or epidemic in character due to atmospheric suspension That the germ may become infectious in its nature I have no reason to doubt, or that the disease may even occasionally be transmitted to, or contracted by one person being in too close contact with another

PNEUMONITIS

Regarding the pathology of pneumonitis and the microbe that has been proved to be the almost constant concomitant of this disease, I have but a word to add The bacillus discovered by Friedlander was thought to be by many the pathogenic organism responsible for exciting it, but the real "pneumococcus" is that discovered by Fraenkel and Talamon and studied by Drs Sternberg, Weichselbaum and others, later developments of which show that experimentation upon animals with pneumonococcal inoculation will induce inflammatory processes in various tissues and organs

DEPARTMENT OF PUBLIC HEALTH

Serumtherapy, including antitoxins, antituberculin, antihydrophoine, etc, are rapidly being introduced That in their study and their use lies a great future there is no longer a doubt in my mind, when they can be obtained in a perfectly fresh state When the governments of our municipalities and various commonwealths recognize the importance of bacteriologic research and of State medicine in general, and the establishment of laboratories in various cities of the country, this may be said to be a step in advance of what a few years ago was scarcely worth the thought for a moment's consideration In a word, then, I believe that in serum-therapeutics and antitoxins, the use of which is almost in their infancy, we have added another boon to humanity and that greater developments await their coming These discoveries are in line with the researches of Pasteur, Koch and other bacteriologic collaborateurs In addition to what has just been said, it may be gleaned from the foregoing pages that they point directly to establishing another branch of our federal government, known as the Department of Public Health, with a medical secretary of the same To my mind there is no longer room for doubt that this proposed additional portfolio should be created The special committee of the ASSOCIATION first appointed in 1891, to petition Congress to create "a Department and a Secretary of Public Health," submitted the result of its deliberations at the Detroit meeting in 1892 in a most excellent and scholarly manner At Milwaukee, in 1893, and last year at the San Francisco meeting carefully prepared reports upon this most vital question were submitted, and at all these meetings the report of the committee was unanimously adopted Your chairman is a very humble member of this special committee, yet he has invoked the promise of several Illinois Representatives and one of its U S Senators to cooperate with us to favor the passage of the bill that has been so ably prepared by the committee, and which has been before Congress practically for two years While the billion-dollar mark for appropriations of the last (LIII) Congress was passed, no small amount of which was for the improvement or deepening the channel of "Mud creek," "Swan lake," etc, nothing was done to promote the health of the American people in the matter of legislation or establishing this greatly desired branch of our government That sanitary work can be accomplished and exacted by national authority, of local and municipal boards of health, who do not, or will not at all times comply with that which best subserves the sanitary interests of a community, is a certainty which would require the latter to vouchsafe their stewardship to the people That well-known maxim, "*Salus populi, suprema est lex*," should have received the thoughtful consideration of every member ere the demise of the last Congress is something which only the ozone of forgetfulness will remove Permit me to suggest, that we advise and recommend to the ASSOCIATION in general session, ere its final adjournment, that the perpetuity of the committee, clothed with additional substantial authority be continued, and with the request also from this Section that sufficient financial aid from the treasury of the ASSOCIATION be appropriated to defray the necessary expenses of this committee, which should not be less than $1,000 for the ensuing two years

And now, gentlemen of the Section, you will excuse me, I know, for inviting your attention for a moment to another topic which is not exactly within the province of this address It is a subject of considerable interest to every member of this Section, if indeed, not to every member of our profession in the United States I refer to the proposed statue to Dr Benjamin Rush, to be erected at the capital of the Nation When we reflect that the beautiful city of Washington is embellished with statues of patriots and presidents, painters and sculptors, generals and jurists, philanthropists and theologians, and numbers of others, all of whom are affectionately commemorated, this much we owe to the memory of that great physician, sanitarian and teacher, a member of the Continental Congress and signer of the Declaration of Independence, when we recall the success that has been achieved by the American Surgical Association, with its hundred members, in raising a sufficient amount of funds for the completion of their monument to Gross, and the prospective erection of a most magnificent monument to Hahnemann in Washington by the homeopaths, it should be a matter of great pride as well as a pressing duty on our part for us to enthuse our members in the matter of the ASSOCIATION monument to Rush Let it be promulgated from the Section on State Medicine, that we heartily approve this commendable object, and loyally and earnestly and in a substantial manner heartily support the committee having this sacred duty in charge, and with renewed hope going out from this Section of sanitarians, encourage and sustain the committee to invite every member of the ASSOCIATION and the profession throughout the United States to contribute toward this laudable undertaking That a testimonial in the form of a shaft of marble or granite, surmounted with bronze, enduring as the ages, may be erected eighty-two years after the heroic death of Dr Rush, to crown his immortal name and perpetuate the memory of one of the grandest and most illustrious members of our profession that America has ever produced, will, I believe be another historic event of our honorable profession

In conclusion, I wish to renew my thanks for your indulgence thus far, and say that I am not unmindful of my obligations to you in this respect, and to furthermore state that a very large part of the success the Section on State Medicine has attained this year, is due to the loyal support of the efficient Secretary, Dr Charles H Shepard, and to all the members who kindly responded to our invitation to read papers, which you will note by referring to the titles and authors in the program, are of unusual scientific interest

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ORIGINAL ARTICLES.

NOTES ON TWO CASES OF PELVIC SURGERY

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10, 1895

BY H R HOLMES, M D
PORTLAND, ORE

These cases I report, as throwing some light on the philosophy of ventrofixation

Case 1—Mrs K, age 46 married twenty years, 2-para, youngest child 18 years of age Seen first in June, 1892 Complained of menorrhagia Five curettements had been done without much, if any, benefit Perineum had been attempted by Tait's method which had not given satisfaction In fact there was yet a pronounced flatus vaginalis The first thing I did for the patient was to curette the uterus carefully and pack it with iodoform gauze, and at the same time do an Emmet operation to repair the pelvic floor The latter was a happy success, in so far as it restored the function of the pelvic floor, but this statement may be questioned, when I admit that it did not raise the uterus as high as its normal place, nor change it from its position in the second degree of retroversion

Within three months the menorrhagia was bad as ever, and following the menstrual periods there would be a muco-serous discharge so irritating in its character as to abrade the cutaneous surface of the labia and thighs and render the patient hyperesthetic

Another time I used, I think quite thoroughly the curette, very little if any improvement took place, and when three months had passed I again curetted somewhat vigorously, and yet no considerable change of the condition was effected The bimanual examination showed the uterus to be of about normal size and the uterine sound added confidence to this belief

For more than a year, patient was treated expectantly In May, 1894, on examining the first time for six months, a tumor the size of a Tangerine orange was found at either side of the uterus, and patient was complaining of constant pain Within a few days celiotomy was done, and the two cysts, ovarian, were removed, and ventrofixation of the uterus was done also Convalescence was without remarkable event and my patient improved to an extent, as to say, she underwent a precipitate menopause and not suffering her accustomed waste of blood, began to improve in strength and general appearance

But still there remained a doggedly persisting uterine discharge—muco-serous in character—which was so irritating to the woman, using her own language, as to render life a misery to her The irritation, so to speak, was exquisite It set up a nervous erythism which she felt at times was unbearable

In November, 1894, I removed the uterus on account of this uterine discharge for which I had tried every other remedy that I could think might be of benefit. On account of the former celiotomy and ventrofixation, I decided to remove the uterus by the suprapubic method, and did a total extirpation Just before operating, I made a digital examination *per vaginam*, and while the uterus was found to be in good position it was so movable that I supposed it was no longer in any way connected with the abdominal wall On opening the abdomen, the uterus was found suspended from the abdominal wall by a ligamentous structure about an inch in length by an inch in width, bearing a close resemblance to the natural uterine supports, consisting of two layers between which were the sutures Recovery, as in the former instance, was perfectly smooth and patient is very well

Case 2—Mrs R, age 39, 2-para Had secondary syphilis, cyst of broad ligament, lacerated cervix, endometritis, retroversion of uterus and ruptured perineum As she was a county charge and the officials being highly esteemed for their "political economy," I felt that I should do all I could for her at one sitting, for it was quite certain that she would not again have the chance to enter the hospital for surgical treatment at the county's expense Accordingly, and as rapidly as possible, and yet it required about an hour and a half, I curetted the uterus, repaired the cervix and perineum, ligated the hemorrhoids after stretching the sphincter ani, opened the abdomen after carefully cleansing the hands, cared for the cyst of the broad ligament and did ventrofixation of the uterus also

The convalescence was easy, the results were satisfactory

In the early part of February of this year she visited me at the Portland Free Dispensary to say that she had not menstruated for three months Examining her, I was convinced that she was pregnant between three and four months I would like to remark just here that patient had been examined each month at the dispensary and the uterus had been found in good position and movable I impressed upon her mind the importance of being seen frequently, and accordingly she has come to the clinic every week About the first of March she had some pain at the point of ventrofixation This troubled her but slightly for three weeks and ended She seems to be passing along through her gestation naturally I think she is pregnant about six and a half months, and have hopes that she may go on to full term smoothly We are keeping her on 10 grain doses of potassium iodid three times daily

In conclusion, I feel like stating that I have never been better pleased with the results of any of my gynecologic operations than those of ventrofixation I believe that it is just as valuable for extreme anterior displacements as for the posterior variety, yet it might not be appropriate to do it more than once perhaps for the former while it is being done twenty times or more for the latter, for the reason that cases demanding it for anteversion or anteflexion are relatively so infrequent as compared to those demanding it for posterior displacements In other words, cases of extreme anterior displacement are rare

I now know of three prominent and highly qualified surgeons who have employed this means of suspending extremely anteverted and anteflexed uteri, during the past year, and they have reported satisfactory results

Last year at San Francisco, I read a paper before this Section on ventrofixation for extreme anterior displacements of the uterus, reporting six cases so operated on with pleasing results Since that time I have met with but one case of the kind sufficiently bad to require the operation, while during the year I have suspended the uterus perhaps a dozen times for retroversion To be sure, retroversion is usually accompanied with some degree of decensus, which is the cause in part at least, of the attending symptoms, but I am not convinced that anterior displacements do not cause bladder and menstrual disturbances equally great in rare but occasional cases

When I read my paper in San Francisco I was as well as now aware of the popular professional opinion regarding the clinical import of anteversion and anteflexion, and yet, results of the few operations that I reported were so satisfactory, as well as encouraging reports from others who have done the operation, that I am still under the persuasion that the procedure is one of value While it is so absolutely safe, barring the possibility of accident or error, I presume its justifiability will hinge upon the question, Is there such a thing as pathologic ante-displacement of sufficient consequence to merit attention or treatment? If so, the operation which I have proposed deserves your consideration and trial, if not, I am laboring under a mistake, a part of Dr J Marion Sims' valuable time was wasted, and Dr Dudley, of Chicago, has perpetrated a joke upon himself

If it be not asking too great a favor, I should be glad if those who believe in the existing importance of ante displacements, would give this simple and safe operation a single trial

While the immediate effect of the procedure suggests the term, ventrofixation, in view of that which takes place secondarily, I am willing to accept the name which Professor Kelly now is using as a better one, and certainly he has the right to christen his own child

DISCUSSION

Dr A Lapthorn Smith, of Montreal—said he was very much indebted to Dr Kelly for this operation, which he has now performed twenty six times without any mortality rate and with very gratifying results He referred to the importance of scarifying the peritoneum and anterior surface of the uterus for the purpose of favoring adhesion He employs a permanent sterilized silk ligature in stitching the uterus to the abdominal wall The organ is quite movable after the operation He considers it preferable to Alexander's operation He had done the Alexander operation twenty six times before he began this method

Dr Reuben Peterson, of Grand Rapids—said the first operation that he attempted for suspension of the uterus by the ovarian ligament was devised by Dr Kelly Dr Kelly was fortunate in getting a large number of cases upon which the operation could be done, and we must depend upon the record and the results of a large number of cases in order to determine the special method we shall adopt In seventeen cases he has suspended the uterus by means of the ovarian ligament Recently he had the opportunity of examining ten of the patients personally, and had a report of five others In ten of the cases the anatomic result was perfect, and a cure has been effected in fifteen out of the seventeen cases

Dr Rufus B Hall, of Cincinnati—thanked Dr Kelly for his excellent work in this direction, and said he had made the operation a number of times and was very much pleased with it He mentioned the fact that in a number of cases in which one ovary was removed and the uterus fixed to the anterior abdominal wall, the patients had borne children without inconvenience One patient complained of considerable pain in the line of incision about the fifth or sixth month, after which she went along and was delivered without trouble He is more and more convinced that time will prove that retroversion will be treated in this manner as a routine mode of treatment

Dr J Henry Carstens, of Detroit—said that ordinary cases of retroversion of the uterus without any adhesions did not require ventral fixation He believes that such cases can be treated by mechanical means Some of these women do not complain of any symptoms whatever, while in other cases more or less pain and distress are complained of He finds also in these cases of retroversion of the uterus that a diseased tube is generally at the bottom of the whole trouble, and as a result we have on one side the tube, ovary, uterus, and rectum matted together In such cases we have to perform abdominal section and remove both the diseased ovary and tube When we do that and break up the adhesions between the uterus and rectum, we may as well stitch the stump in the lower angle of the wound and keep the uterus anchored *in situ*, while the other side being perfectly healthy will go on and functionate and the woman may become pregnant He claimed that all cases requiring ventral fixation are due to a diseased tube and ovary, and they must be removed in order to do any good He was perfectly astonished in the light of modern surgery to hear that Dr Kelly still employed silk for ligatures in these cases, and thought it would be better to employ some absorbable material for that purpose

Dr Beverly MacMonagle, of San Francisco—has performed the operation a number of times with excellent results With regard to scarifying the tissues he does not think this is necessary if the sutures are passed as recommended by Dr Kelly The whole intra-abdominal pressure is on the back of the uterus, and while the tissue allows it to sink down it does not permit the abdominal viscera to come between the uterus and abdominal wall He has had quite a number of patients who have declined the operation The operation of vaginal fixation is coming forward and being practiced by a neighbor of his very generally, and he was anxious to hear the different opinions on this subject

Dr M B Ward, of Topeka, Kan —felt certain that there was no operation in surgery that is equal in its results to the one described by Dr Kelly He does not agree with Dr Carstens as regards the benefit of mechanical treatment in these cases A gynecologist might treat a uterus for six years by trying to replace it by mechanical methods, and yet eventually would be forced to do this operation in order to effect a cure, and if Dr Carstens could replace a uterus in these cases by manipulation with tampons and pessaries, he was more skillful than the speaker He had had excellent results in cases of ventrofixation

Dr G R Iril, of Cleveland Ohio—referred to a case in which fatal secondary hemorrhage followed the performance of the operation The patient was a woman, 33 years of age, upon whom a double ovariotomy had been performed The uterus was retroflexed, and the physician in charge performed the operation as recommended by Dr Kelly

Dr X O Werder, of Pittsburg—was sorry that vaginal fixation was not more discussed than it had been He saw Dr Kelly do his operation of suspensio-uteri two years ago, and was well pleased with the method and had been using it until seven or eight months ago He had operated twenty-five times by Dr Kelly's method and his results had been very good until he encountered mural abscesses Shortly after this he noticed that German operators were recommending vaginal fixation He has resorted to this method in thirteen cases One advantage of vaginal fixation over the abdominal method is the avoidance of the abdominal incision, and he knows from experience that with many patients this is an important matter Many patients will submit to vaginal fixation in connection with a cervix operation, Emmet's perineal operation, or some plastic operation about the vagina when they will flatly refuse to have the abdomen opened for correcting a malposition of the uterus Another advantage of vaginal fixation is that patients can leave bed in ten days After the operation they do not complain of any pain, thirst, or any of the disagreeable symptoms that are frequently complained of after an abdominal section

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CONCERNING THE PRINCIPLES AND PRACTICE OF EPISIOTOMY

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md May 7-10 1895

BY FRANK A STAHL, M D

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Nature teaches that she endeavors to establish a favorable relativity in size, axes and diameters between those of the mother and her parts, especially the pelvis, and those of the fetus and its parts Where this is, there is the normal When this favorable relativity is present and with long fetal part diameter to long pelvic diameter given the proper parturient power, there will be natural, unassisted or normal labor, without destruction or harmful adaptation of part to part, where otherwise, as long fetal part diameter to a shorter pelvic diameter there will be unnatural or abnormal labor, requiring corrective assistance either natural or artificial, be it at the superior strait, in the cavity or at the outlet, be it upon the mother's part or upon the fetus' parts, and as a result of such deviation, necessity has invented operations, such as the forceps, turning, Cæsarean section, embryotomy, and yielding for a moment to the symphyophile, symphysiotomy At the outlet, nature teaches episiotomy At the outlet, the longest diameter is the antero posterior, and to it must be apposed, and through it must pass the longest diameter of the fetal part, and this is usually the case Unfortunately the antero posterior diameters of the osseous and soft pelvic outlets are not equal in length, that of the soft outlet being shorter, so that often a fetal part will readily clear the osseous outlet but not so the soft outlet, and then with difficulty and traumatism

Nature endeavors to overcome this difficulty and disproportion between fetal part and soft outlet by dilatation of the soft parts to encourage increase of their diameters and circumference, but where dilatation does not affect this favorable relativity, nature does so by establishing the equality of diameters through separation of the parts of the soft outlet, thus overcoming the disproportion In the great majority of all cases where this natural separation occurs, be the case normal or abnormal, it does so in the midline through the perineum, a natural episiotomy, as it were, and central in character, though in some few cases the separation deflects to one side or the other In this phenomenon there is an expression of a law of nature When and where she finds it necessary to overcome an obstacle, nature chooses that direction and that method in which there is the least resistance, the least injury inflicted, the least expenditure of energy, and in which the necessary therefore the most good is accomplished Though this assisting corrective principle of nature at the soft outlet is an old one and must have been appreciated by many before him, to Fielding Ould (1742) is given the credit of being first to call attention to this subject He seems to have adopted nature's plan, suggesting central episiotomy The records are not clear whether or not he performed episiotomy Michaelis (1799) is accredited with having been the first to have performed the operation, and he, like Ould, advocated episiotomy in the midline In 1836 Ritgen suggested scarification of the outlet, but this theory is lacking in efficacy, as well as in principle In 1850, Eichelberg, and in 1852, Scanzoni brought out and recommended lateral episiotomy, the method as generally practiced to day, lateral incisions from 1 to 3 cm in length More recently Cohen suggested subcutaneous myotomy of the sphincter cunni, a suggestion failing again in efficacy and principle It savors much of a congenial library and a fragrant Habana Its to have been anticipated impracticability quickly proved itself when attempted at the bedside Since Ould's time more or less interest has been shown in episiotomy, yet more interest than practice, its principle has always been regarded with favor, not so the method

In America renewed interest seems to have been awakened in episiotomy, following the appearance in 1878 of Dr Anna Bromall's most excellent and exhaustive article which was soon followed by those of Credé and Colpe, Manton, Wilcox, and many others in close succession, one of the last to appear being by Dickinson, well illustrating his conception of the principles and the technique to be followed in lateral episiotomy They, like our text-books, favored the lateral method and the consensus of opinion to-day is to favor the lateral method The success with the lateral method has been such that although the writers above referred to have all warmly recommended lateral episiotomy, the success or perhaps the lack of success which this lateral method has met with in the hands of the general, as well as special practitioner of obstetrics, has been and still is such that opinion at the present time is less enthusiastic toward the operation than formerly, many discarding it altogether as without virtue or value This feeling is quite plainly reflected in the words of Professor Parvin who, in reference to this operation, concludes as follows "It may be stated that episiotomy will very seldom be plainly indicated, and in private practice will rarely be done" Very similar in tone writes Professor Lusk "It (episiotomy) is essentially the operation of young practitioners, the occasions for its employment diminish in frequency with increase of experience," and further, Chailly-Honoré, the most enthusiastic advocate of lateral episiotomy (Bromall), refers to it "as the excellent practice of Professor Dubois, who taught that incisions should be made, extend in an oblique method, not to exceed 2 cm He admitted, however, that perineal ruptures can not always be avoided, etc," an expression very clearly showing his doubt in its efficacy and that nature often assists post operationem

Though, comparatively speaking, yet a younger practitioner, I have enjoyed a preliminary training in obstetrics granted to but few, and since then my experience in the obstetrical field has been rich in material, and yet richer in instruction, since this preliminary training enables me to properly appreciate each and every case as it occurs

Episiotomy, I believe, meets with so little kindness not because episiotomy *per se* is at fault, but rather it is the method in which opinion dictates it should be performed Opinion has misled, and instructs to adopt the lateral method On the other hand, nature remonstrates and requests to elongate in the midline It is opinion that has endeavored to misdirect, but nature, like truth, will assert herself Still, I can readily agree with these gentlemen in their adverse conclusions, but only in so far as their remarks apply to lateral episiotomy, because lateral episiotomy is wrong in principle and lacking in efficacy This is not so with nature's method, central episiotomy, which in principle, I believe, is correct, and that is to elongate and increase the circumference in the direction of the essential diameter of the soft outlet, the antero posterior, thus equalizing the diameters of the soft and osseous outlets and establishing the natural favorable relativity

Lateral episiotomy does not accomplish this At the outlet it is to and through this shorter a p soft outlet diameter that the longest diameter of the fetal part must pass, therefore if dilatation be not sufficient and inequality of diameter exists, correction in this diameter becomes a necessity and occurs, observation teaches this, so does nature, and central episiotomy thus becomes the natural method In my humble opinion at the present time there is no subject before obstetrical thought which attaches greater importance to itself than does this matter of episiotomy

Society, as the accoucheur finds it to day, has a tendency to gather in the cities, crowding itself within very narrow lines, and where formerly the mode of life was such that there was room and plenty of it to live and move in, there is now, and this tendency is growing scarcely space in many quarters to breathe in, not to say anything of properly exercising in This overcrowding and confinement are gradually having their effect upon the body of the species The physical under these unfavorable conditions is certainly not gaining, nor even in many instances holding its own As a consequence there is a loss of power, of strength, to overcome the resistances nature requires the physical to overcome Statistical research and scientific inquiry will prove this to be true, and in all branches of medicine, namely, medicine, surgery and obstetrics I feel quite sure that there is not an accoucheur of experience present but who indorses the point made by Duncan as to the disproportion between fetal part and soft pelvic outlet Duncan writes as follows "That in the Darwinian progress of the head of the species, the head of the fetus has increased in size more rapidly than the orifices and passages, through which it has come, have increased in size and dilatability " As man's tendency to gather in large bodies in small places continues, so will loss of the physical continue until better hygienic conditions obtain, and so will this disproportion between outlet and fetal part continue, and therefore will continue the necessity for some corrective assisting means to successfully overcome this unfavorable relativity of outlet and fetal part, or we must leave it to nature to correct It is in consequence of this light, this experience, that I find I can not agree wholly in opinion with our masters of obstetrical thought, Professors Parvin and Lusk Experience has taught me to adopt episiotomy, and then central, never lateral, where the disproportion between fetal part and soft outlet is plainly evident, this in an experienced sense

In my hands, episiotomy is an instrument, *par excellence*, aiding as no other instrument can in the preservation of life and body, both in the fetal and maternal, and as I grow in obstetrics and since I find that the disproportion does not decrease, I am glad to know that there is so effectual and yet simple an instrument as central episiotomy at my command It is in private practice especially where it has proved itself of such benefit and has often assisted me in saving the life of the fetus and always in preserving the perineal body and other parts of the soft outlet

In nearly all cases of accouchement forcé, as turnings, high and low forceps in the primiparæ and well-preserved pluriparæ, and in something like 20 per cent of so called normal deliveries this disproportion between fetal part and soft outlet exists Especially in turnings in the primiparæ has episiotomy been of great value to me Formerly in the after extractions, I found the greatest difficulty in dragging the fetus through the undilated vagina and outlet, greater difficulty indeed than in the intrauterine turning itself Even before the turning in some cases, the power of the arm becomes neutralized because of the intense contraction of the undilated outlet and vagina about the forearm and often because of this constriction, delivery was not accomplished until vagina and outlet were forcibly ripped apart from the disproportion between fetus and outlet and in the hurry to save life Now with episiotomy, turning and extraction are far easier than formerly, with greater comfort and less danger to all three concerned—fetus, mother and accoucheur The same in principle applies to high forceps and in a modified way to low forceps

Of the four methods—lateral, central, scarification and subcutaneous myotomy, suggested to favor the establishing of the favorable relativity of longest fetal part diameter and longest pelvic outlet diameter and increase of outlet circumference, lateral and central episiotomy only are worthy of consideration Lateral episiotomy is lacking in two cardinal points 1, it is wrong in principle, and 2, the operation as recommended is sadly deficient in efficacy, and besides it is unnatural To establish the favorable relativity, the essential diameter, the soft antero-posterior must be equalized Lateral episiotomy, as practiced, does not accomplish this, on the contrary, it elongates the transverse and oblique diameters and remains almost neutral toward the all-important diameter, the antero posterior, therefore this ill success My experience with lateral episiotomy has been, I believe, much that of others In those cases where it seemed to have been of service, legitimate doubt subsequently arose as to whether or not the fetal part could not have passed without lateral incisions But in those cases where the disproportion was plainly evident, as in nearly all cases of accouchement force, as in high forceps and turnings where though lateral incisions were made, observation decided that invariably nature assisted with central episiotomy And why? As taught, lateral episiotomy is made with reférence to length of incision from 1–3 cm in a lateral direction Scarcely any mention whatever is made of depth (a depth of a line or 5 m m is practically without effect) As stated, this will elongate the transverse and oblique diameters—diameters that need no corrective assistance Unless lateral episiotomy be made with reference *primarily to depth of incision that the interval between the incisions may fall back as a tongue of perineal tissue, lateral episiotomy is absolutely without effect upon the essential antero-posterior diameter* But such a practice compared to central episiotomy is excessive, requires greater efforts to perform and to restore, is more dangerous and requires a longer road to arrive at an inferior result

One of the best physical explanations offered me in support of this lateral method is the so called theory of the "parallelogram of pelvic outlet forces", and is, so I understand it, as follows The head, as it rides upon and over the perineum and through the parallelogram, as formed by the labiæ, does so in a manner like the segment of a sphere whose diameters are equal in all directions As a segment of a sphere its greatest power would be exerted at its central axial point, diminishing in a radial manner from the central point The parallelogram not being continuous, resistance is not met with or power expended at this central axial point, but in a circumferential and radial manner, thus receiving and expending the greatest resistance and power in a radial manner, therefore lateral or radial incisions

This theory is weak in several respects

1 The head does not descend upon the soft outlet, so that it acts as a segment of a sphere, nor are its diameters equal in all directions It may appear so between the labiæ, but the head in its passage over and through the soft outlet acts upon it as a segment of an ovoid whose longest diameter is in the antero posterior, and to be favorably related to the pelvic outlet must assume and clear that outlet in its longest diameter, its antero-posterior

2 Radial incisions are wrong in principle, since they increase the circumference, but superficially, and then so as to increase the non essential transverse and oblique diameters To be of service, increase of circumference of soft outlet should not be superficial only and must be made so as to increase the antero-posterior diameter

3 Radial incisions as implied above, regardless of *number* and *length* are without the essential corrective effect, unless made with regard primarily to *depth* Such a practice compared to the single simple non-dangerous midline incision is seriously objectionable

4 Nature herself disproves this theory since often, notwithstanding lateral incisions, she corrects even the artificer and separates in the midline, and not seldom exaggerates the lateral incisions both in length and depth, again in the fact that in the great majority of all spontaneous lacerations they are central in incipiency and character, also in the fact that where rupture of the perineum solely occurs it is central, never lateral

5 This theory is not applicable to other forms of labor than occipito anterior, as in those of occipito-posterior, face and pelvic presentations, where the circumference of the advancing part is oval

The floor of the pelvis is divided throughout nearly its whole extent by two outlets In outline these outlets may be compared to a flattened unequally looped figure of eight The anterior and greater loop ovoidal in outline corresponds to the parturient canal outlet, the posterior, smaller and more circular corresponds to the alimentary canal outlet and as connecting link between the two loops and encroaching upon the caliber of both canals is the triangular perineum If the circumference of either loop be too small to permit a body to pass, and especially an ovoidal body through the ovoidal loop, the most simple and effectual way to increase that circumference is to overcome the uniting encroaching link, and this will be in a line with its central diameter In the case of the ovoidal body passing through the ovoidal loop, the greatest resistance will be at the central point of the circumference of the invading link, diminishing in a radial manner from this point

Separation of the soft perineal link in the midline increases the superficial and deep circumference of the parturient outlet and in a direction equalizing the essential osseous and soft pelvic outlet diameters, with less expenditure of energy to perform and to restore, with less danger to body and life, and is more practicable than in any other method

So far as technique is concerned, I have nothing to add what is already so well known, all that is required is a pair of blunt-pointed scissors In high forceps and turnings in the primiparæ and the well-preserved pluriparæ where the fetal parts have to be dragged through an undilated vagina and outlet, where disproportion between fetal part and outlet is always considerable, before applying the blades or attempting to turn, I stretch the undilated perineum between two fingers and sever in the midline through the whole perineal body, through vaginal, parenchymal and dermal parts, as far as necessary even to the sphincter ani, stop hemorrhage where any, then apply or turn In low forceps or normal labor I sever, as recommended by B Schultze, only then when "the commissure shows signs of yielding," following in both cases with immediate post partum perineorrhaphy

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THE THERAPEUTIC ACTION OF CHLOROFORM IN PARTURITION

Read in the Section on Obstetrics and Diseases of Women at the Forty sixth Annual Meeting of the American Medical Association at Baltimore, Md , May 7-10, 1895

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The results of chloroform anesthesia in parturition constitute one of the most remarkable and interesting features in the history of medicine During the past thirty-five years there have doubtless been millions of cases of parturition in which the agency of chloroform as an anesthetic has been called into requisition in the civilized world with the rarest report of fatal consequences

Then too, when we take into consideration the manner in which chloroform is given in labor, often recklessly, carelessly, and copiously, we are still further astonished at the almost universally favorable results Often administered by ignorant nurses, husbands, bystanders, even by the patients themselves, and not infrequently, recklessly and injudiciously by the attending physicians, it is wonderful that evil results are so rare Thus chloroform is used in a manner in parturition that no surgeon would dare to do in performing an operation

The profession has come to regard the use of chloroform in parturition as almost utterly devoid of danger, and it is this opinion based upon substantial facts that has given rise to its universal and careless, even reckless administration in labor Why chloroform acts differently in the parturient and pregnant female from the non-pregnant person, or why it is comparatively harmless in the pregnant and is attended with a certain degree of danger in the non-pregnant is a question not devoid of interest or importance To be enabled to determine what there is in the physiology of pregnancy that protects the woman against the dangers of chloroform would be to ascertain and establish a fact in the therapeusis of chloroform that would shed an infinite amount of light on its therapeutic action not only in labor, but from a surgical point of view

During the process of pregnancy there are two systems which undergo manifest changes of a developmental order These are the vasomotor and circulatory systems

The developmental changes in these two systems are of a phenomenal character The muscular structure of the left ventricle takes on increased nutrition and growth, that it may have increased force and power to meet the new emergencies of circulation and nutrition A new being is to be nourished, developed, formed, and shaped in all its parts, and to do this a new force is to be created The heart of the pregnant female not only acquires additional force, but the great vasomotor and sympathetic systems, with their ganglia and nerves take on new energy, more vigorous action and power to maintain that complex circulation of both mother, the placenta and fetus Just in proportion as the growth of the placenta and fetus increase, these developmental changes in the circulatory vasomotor systems advance Otherwise the pregnant woman would utterly fail to sustain her own strength and health, and at the same time nourish the placenta and fetus Hence her vasomotor system and circulation reach a state of development in point of vigor, energy and power rarely attained in any human constitution

Under these circumstances, arterial tension and blood pressure more than redoubled are indicated in the strong, vigorous, bounding and frequent pulse of the pregnant woman, which is familiar to all practical obstetricians Such a state of arterial tension and blood pressure would be regarded in the non-pregnant as indicating a dangerous degree of plethora and congestive tendency But in the pregnant woman we know there is a safety valve, a diverticulum for this increased circulatory force and volume found in the placental and fetal circulations

Among the most interesting developmental processes of pregnancy is leucocytosis, a purely regenerative and restorative process This seems to be the foundation upon which is constructed all other developmental functions of the vasomotor and circulatory systems, to enable them to bear the new duties and superadded labors of the emergencies of pregnancy and parturition To what extent the immunity of the parturient female from the toxic action of chloroform is due to the restorative and sustaining process of leucocytosis can not be determined at present

The process of pregnancy, the evolution and growth of the fetus require that every energy of the maternal system shall be bent singly to the accomplishment of those objects

That the therapeutic action of chloroform in the parturient female differs widely from that in the non-pregnant person, there is abundant evidence to prove We know that in surgical practice, chloroform anesthesia is attended with a certain proportion of mortality that renders extreme caution necessary, while a death or even unpleasant result in labor is a very rare occurrence from that cause

In the obstetrical practice of the civilized world, the most careful researches have only brought to light a very small number of cases of death in the millions of instances where chloroform is resorted to

We may safely say that in the practice of the world there are twenty cases of parturition in which chloroform is resorted to, to one of surgery, and yet there is not the one-hundredth part of cases of mortality in the former as the latter I do not think that this is an exaggerated statement The most careful investigation has failed to find more than forty deaths from chloroform in labor, in the practice of the world, from the time that this anesthetic was brought into use to the present time Some high authorities place the number at only three deaths This is, I think, a wonderful exhibition, particularly when we take into consideration the careless, unscientific, reckless manner in which it is given during labor

And not only this, but its often prolonged use during protracted labors I have seen it given in protracted labors every half hour for twelve, and in certain cases for twenty-four hours, where there were not only no evil results, but labor terminated naturally and favorably I have seen in cases of obstetrical operations the patient kept in a profound state of chloroform anesthesia for two and three hours without the least indication of collapse of the circulation or suspension of respiration

In a long experience in the use of chloroform, extending over a period of nearly forty years, I have yet to see my first case of the least evil result to mother or child Yet I am opposed to its reckless and careless use in parturition and for fear that there might be an evil result, believe that the same scientific principles and careful method of giving it should guide us as in general surgery

According to these statements, and I am convinced that they are sustained by the experience of the majority of the profession, pregnancy, particularly during the stage of parturition, does in a large degree render the woman immune from the evil effects of chloroform This having been established as a fact in its therapeusis, it remains to be determined what is there in the state of pregnancy or parturition that gives the parturient patient this immunity

The extraordinary development of the vasomotor and circulatory systems in the pregnant woman has been alluded to, with its wonderful arterial tension and high blood pressure The pulse even of the most delicate pregnant woman is often as hard, full and strong as the most robust man In a paper read last November before the Southern Surgical and Gynecological Association, on the action of chloroform on the exposed human brain, I showed very conclusively that the anesthetic action of chloroform on that organ was invariably to produce anemia of its circulation, reduction of arterial tension and diminution of blood pressure, so that always under full anesthesia the brain becomes anemic to a degree that in extreme cases there is an enormous and dangerous reduction of circulation preceding general collapse I am therefore constrained to believe that in this wonderful development of force, strength and power of the pregnant woman in her vasomotor system lies her immunity from the toxic action of chloroform Every degree acquired of additional strength in the vasomotor system gives her increased immunity It is this newly acquired force of the vasomotor system of the pregnant woman which enables her to resist the toxic action of chloroform to an extraordinary extent, which prevents extreme depression of arterial tension, and consequently excessive and dangerous anemia of the brain and spinal cord

In the cases alluded to, of extensive injury of the cranium and the brain in which, while chloroform was being used, I had a perfect ocular demonstration of its action on the functions of the brain during its administration of three or four times in each case, reduction of arterial tension, blood pressure and vasomotor force in the arteries invariably preceded a state of anemia of the brain, and this extreme anemia of the brain, suspension of pulsation and hemorrhage always preceded tendency to general collapse

These facts, I think, indicate to us very clearly that in chloroform anesthesia, anemia of the brain to an extreme degree always precedes dangerous chloroform narcosis and collapse, and, at the same time, that so long as the vasomotor force remains intact in sufficient force to sustain the circulation in the brain and medulla, life will be sustained

In my experiments with chloroform in the cases cited of injury of the brain, there were two occasions in one, and one occasion in the other, on which there was alarming collapse, with almost entire suspension of respiration and cardiac action Preceding these symptoms in every instance there was marked reduction of vasomotor force, arterial tension and blood pressure, and diminution of cardiac power In all my experience in the use of chloroform in parturition, I have never witnessed this extreme reduction of cardiac and vasomotor force, no matter to what extent the agent was pushed, that I have in general surgery

The primary action of chloroform is on the cortex of the brain, the seat of consciousness and sensation For the relief of the pains of parturition, all we have to do is to bring the cortex under a state of anesthesia, without extending its influence so far as to involve the reflex functions of the cord This is equally true of anesthesia of general surgery By watching the action of the remedy we are enabled to confine its influence to the cortex without infringing on the functions of the cord or vasomotor system This is all that is desired to relieve pain and to render the act of labor more comfortable and easy for our patient. On the contrary, if we desire to relax excessive rigidity of the soft parts, or in case of convulsive action, to control that, we must extend our anesthetic influence further, and bring under its power the reflex functions of the cord itself So long as we confine our anesthetic to the cortex alone we can not accomplish these objects But immediately the cord is brought under its influence, complete muscular relaxation follows

We will now consider the question of anesthesia in its practical bearing and influence on the process of parturition

Is the use of chloroform in parturition justifiable for the relief of pain alone?

This is the first question that presents itself for our consideration I believe that it is, but not in every case For instance, there are cases where the pains are slight, the conditions all favorable, the passages spacious the labor rapid, in which it is unnecessary But in every case where the labor is at all slow, painful, and not easy, I believe that it is not only justifiable, but that it would be inhuman to withhold it This statement is based upon the fact that the mortality from chloroform anesthesia in labor is so very small, *not probably amounting to one in millions*, we certainly can risk so little for so much good

I know that there are those who oppose its use in parturition *in toto*, but I believe without good and just reasons

Pain is the great terror of parturition and if it could be robbed of this feature alone it would be converted into a very simple and easy process For some years before I adopted anesthesia in my obstetrical practice, I have time and again sat by the bedside of women in the throes of parturition and listened often with anguish to myself, to their cries for relief from pain, heard their moanings from almost insufferable agony, for hours of such scenes that impressed themselves upon my memory in a manner never to be forgotten With chloroform at hand, and with my familiarity with its action, I never have to pass through such painful scenes now I have tried in past years many substitutes for chloroform to relieve the pain of parturition, but have never found one yet I am convinced that it is *the anesthetic* of all others peculiarly appropriate to the parturient state It is clean in its action, does not cause congestion of either the brain, the lungs or kidneys, but markedly diminishes the tendency to congestion of the brain

Does the action of chloroform facilitate the process of parturition?

I believe that, as a rule, it does I am convinced that in a great majority of cases it does shorten the duration of parturition I know that it is the opinion of some that its action is to reduce the strength of uterine contraction and in this way retard the process of parturition It has been my experience that while it relieves pain, its use may be so graduated as to not impair uterine contraction Acting on the cortex of the brain alone and on the reflex functions of the cord are two different things Thus we can abolish sensation without affecting reflex action I believe that with care and judgment we can confine the action of chloroform to the cortex alone, the seat of sensation, and leave intact the reflex functions and the contractive force of the uterus

I have no statistics to guide me in this matter, but my personal experience in the administration of chloroform in parturition leads me to believe that it not only makes labor easier, but that in the average it shortens the duration of that process If then, it is capable of rendering labor easier, more bearable to the patient, and can shorten its duration one hour, or even thirty minutes, its application is justifiable when we *consider* the very small risk incurred in giving it In certain conditions I know that it can *shorten the duration* of labor These conditions are rigidity of the soft parts, and irregular contraction of the uterine muscular fibers or spasmodic contraction of certain sets of fibers and relaxation of other sets, a condition that may protract labor indefinitely The spasmodic contraction of certain muscular fibers of the uterus and relaxation of others is not an unfrequent state during protracted labor, and is a similar condition to that which produces the hour glass contraction after labor Chloroform is capable of equalizing uterine contraction and of preventing irregular spasmodic contraction, and in this way facilitating parturition

Its well-known power to overcome and relax muscular rigidity *no one can doubt* In illustration of this *fact*, I have *repeatedly* in my experience seen cases attended with rigidity of the soft parts where the process of labor was stationary, it might be for an hour or more, or even hours, but when chloroform was given in such quantities as to produce muscular relaxation, the labor would progress rapidly toward a termination

At what stages of parturition is chloroform applicable?

To relieve excessive pain it is applicable at any stage But to induce relaxation of muscular rigidity it is applicable in unusual rigidity of the os uteri, and in extreme rigidity of the perineum when the fetal head begins to press on that body When the object of giving chloroform is to relieve pain only, it should be given in small quantities at the beginning of each pain and left off when the pain ceases But when we desire to overcome muscular rigidity the patient must be subjected fully to its influence In the case of extreme contraction of the os uteri, or great rigidity of the tissues of the pelvic floor no half way procedure will accomplish anything The patient then must be brought sufficiently under its influence to at least partially suspend reflex action when complete muscular relaxation follows, just as we would do in reducing a dislocation

When there is perfect accommodation between uterine force and muscular relaxation in a normal pelvis, labor proceeds rapidly, easily and successfully. On the contrary, when this accommodation is disturbed, when, for instance, uterine contractile force is feeble, and perineal muscular tension is excessive, labor proceeds slowly and painfully The action of chloroform in this class of cases is to bring this accommodation between uterine force and pelvic resistance to a more normal standard by reducing muscular tension Leaving out of question congenital defects, or those caused by disease in the pelvic bones, the vast majority of tedious and difficult labor will be found to be due to rigidity of the muscular structures of the pelvis, or inefficiency of uterine contraction We often see these conditions existing together Nineteen out of twenty cases of instrumental delivery, in my personal experience, have been due to excessive muscular rigidity of perineum. In these particular cases the action of chloroform has been to cause perineal relaxation, to reduce muscular resistance, to bring about accommodation between force and resistance without materially impairing that force on the part of the uterus

Does chloroform tend to suspend uterine contraction?

There can be no doubt that chloroform may be given in labor in a manner either to relieve pain and to leave uterine contractile force intact, or to both suppress pain and uterine rhythmic contraction so as to suspend parturition for a time

Rhythmic uterine contraction is an essentially reflex function and we know that the different nervous functions come under the influence of chloroform in consecutive order—sensation first, then reflex action and finally vasomotor action Because of this fact we can, as a rule, relieve the pains of labor without impairing the force of uterine contraction All practical obstetricians have observed in patients in labor when under chloroform, entire relief from pain while, at the same time, the rhythmic contractions of the uterus, and all the symptoms of active tenesmus were in full operation I believe that this is the ideal state of chloroform anesthesia, in labor, and I am convinced that it may be so administered always as to relieve pain and leave the reflex functions unimpaired Again, I believe that the reflex functions of the parturient patient are far more resistant to the toxic action of chloroform than in ordinary cases, and that it is more difficult to suspend them This fact gives us a decided advantage in giving chloroform in labor, simply to relieve pain without interrupting the progress of parturition

In my experience it has been seen that when the uterine contractions have been for the time suspended by the too free use of chloroform, when this influence subsided, uterine contractile force returned with renewed and additional vigor to perform the work to be accomplished Also there have been occasions in tedious cases of labor, when the pains were irregular and insufficient in character, causing much needless suffering to the patient, that when the patient was placed under full chloroform narcosis for a time and was made to enjoy a prolonged sleep, the pains were renewed with vigor and force sufficient to terminate the labor

Does the action of chloroform tend to promote or prevent post partum hemorrhage?

This constitutes one of the most important questions connected with the therapeutic action of chloroform in parturition If it tends to promote hemorrhage then this fact increases the dangers of its use in this condition From my personal experience I can say this much relative to this question Many times after its administration in parturition, when pushed to the extent of causing entire unconsciousness at the time of birth, in not a single case have I observed a greater tendency to hemorrhage or any greater difficulty in producing firm uterine contraction than when it was not used

So far as this question is concerned, I can speak alone from personal experience, and any personal experience in a large number of cases extending over a long term of years, is of some value in settling important questions High authority on the action of chloroform on the circulation is that it is a vaso motor contractor In my surgical practice its action on the vessels rather tended to establish this view Profound chloroform anesthesia certainly does diminish surgical hemorrhage In my cases of injury of the skull and brain, under chloroform anesthesia there was a marked diminution of cerebral hemorrhage in every instance Then if it be true that chloroform is a vasomotor contractor, this, it appears to me, would decide this important question

Does the action of chloroform in parturition tend to prevent or promote laceration of the os uteri or perineum?

Are lacerations more common under the present method of delivery under anesthesia, or under the old system of delivery without anesthetics? I have no reliable statistical data bearing on this subject to guide me, but I will state here that I have practiced under both the old system and the new, and am enabled to state positively that all of the bad cases of laceration of os uteri and perineum have occurred in cases where chloroform was not given Many of the worst cases of laceration of these organs occurred in cases of rapid birth before my arrival I am decidedly of opinion that thorough relaxation of the structures of the pelvic floor constitutes the best security against injuries of this kind, and I know of no agent that is as capable of producing that extreme relaxation of muscular tissue as chloroform, and therefore placing the patient in a condition most favorable for the prevention of lacerations

I will briefly cite the case of Mrs T , a young married woman who had an accidental abortion at five month of pregnancy I was called to her about eight hours after and found her with a retained placenta The perineum was intensely rigid and the ostium vaginæ closely contracted The vagina was narrow and the os uteri was rigidly contracted on a protruding umbilical cord I determined to place the patient thoroughly under the influence of chloroform, with the hope that it would produce sufficient relaxation of the soft parts to enable me to insert the fingers into the uterus and remove the retained placenta While the patient was under the influence, to my surprise I found complete relaxation of the perineum, vagina and os uteri These tissues were in such an extremely flaccid condition that I was enabled with perfect ease to pass my hand, not only into the vagina, but into the uterus, which was equally as flaccid, grasp the placenta, detach it from its adhesions and remove it safely Without the influence of chloroform this operation could not have been performed. During my past professional life I have had occasion to test all the various methods proposed by different authorities for the prevention of laceration of the perineum I have found them more or less defective, some entirely unworthy For some years past the method which I have adopted with the most satisfaction was to retract the perineum, with the fingers hooked into the vagina, back toward the rectum forcibly at each pain, so as to maintain a continuous relaxing influence of the perineum until the fetal head presses on that body When it reaches that stage then the perineum will have been very generally relaxed At this point the patient is kept under the influence of the anesthetic until the head begins to protrude from the vulva, when it is suspended In my hands this mechanical dilatation of the perineum, combined with the relaxing influence of the anesthetic has been the means of preventing more lacerations than any other method that I have tried up to this time

In conclusion, I can truly say that after a long and favorable experience in the use of chloroform in parturition, that I have found it not only a blessing to the patient but to the physician also Without the means of relieving human suffering what a dreary, unsatisfactory and repulsive life that of the physician would be Yet for ages and ages the lot of the woman in the throes of parturition was to suffer, to bear, and submit to its terrible tortures, hopeless of relief until the end came

For the past half century the achievements of medical science in the discovery and perfection of remedies to relieve human suffering, to improve human health, and prolong human life, have astounded the civilized world and are a source of pride to our profession And one of the greatest of all of these achievements is the discovery of chloroform

DISCUSSION

DR A LAPTHORN SMITH, of Montreal, said, that in order to lessen the cries of pain, when a woman is approaching the last stage of labor, he does not refuse to give her an anesthetic and it is his practice to administer the A C E mixture and allow the woman to give it to herself until within the last half hour, then the assistant administers the anesthetic

DR H W LONGYEAR, of Detroit also favored the administration of chloroform in cases of labor, notwithstanding the fact that it is said to predispose to post-partum hemorrhage by inducing inertia of the uterus

DR BROWN, in closing, says he has had more than three thousand obstetrical cases, and about fifteen hundred of them were subject to chloroform in more or less degree, and he has not had a serious result

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SOME ORIGINAL STUDIES ON THE OBSTETRICAL FORCEPS, WITH MECHANICAL DEMONSTRATIONS

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md May 7-10 1895

BY J J E MAHER, M D

NEW YORK

The obstetrical forceps is essentially a conservative agent, and by saving two lives at once, becomes the most useful instrument in surgery It therefore well deserves the immense amount of ingenuity that has been expended in attempts to eliminate the defects discovered in the common or ordinary forceps I shall proceed in the simplest possible manner, and leave all abstruse calculations and "*Reine Mechanik*," to be read rather than listened to

For a workman to understand the character of the tool he requires, it is absolutely necessary for him to be able to appreciate the character of the work to be done He must learn the conditions and the exigencies of them, before he can calculate the amount of force to be expended and the manner of its application to accomplish the work in hand By work, I mean the application of force to overcome resistance To understand this resistance to the descent of the child's head, we must be ready to appreciate certain conditions which obtain in the head of the child, and the obstetrical canal

In considering the obstetrical canal, we will take two points, the axis of the canal and the character of the resistance offered by the walls Hodge says "The axis of the canal has been variously delineated by authors, but by no one with sufficient accuracy"

The circle of Carus, *A*, (Fig 1) consisted of a two and one-fourth inch radius, having its center at the middle of the posterior surface of the symphysis pubis, and extended not more than one inch and three eighths directly below the subpubic ligament, in the direction *b g*

Hodge took the middle of the subpubic ligament as the center of a circle, *B*, with a radius extending to the axis of the superior strait This circle might get rid of the difficulty at the outlet, but at the superior strait it was very faulty Hodge did not believe a single circle could be described satisfactorily, for he, like Naegele, Velpeau, Pierre Dubois and Caseaux, believed, what is apparently true, that the head descended practically in a straight line in the axis of the superior strait

The circle of the planes *C* is also faulty in approaching too closely to the pubis

Dr W S Gardiner[1], of this city (Baltimore) deviated from the ordinary manner of describing a circle on the intersection of the planes of the superior and inferior straits produced beyond the pubis He very properly showed that the tip of the coccyx did not make any part of the inferior strait For him, and correctly, too, the end of the sacrum and a point half an inch below the subpubic ligament constitute the proper extremities of the inferior strait While I would admit this as perfectly correct, I can not accept a circle *D* with a radius of seven inches, and which is four and one eighth inches below the subpubic ligament, as representing the axis of the outlet

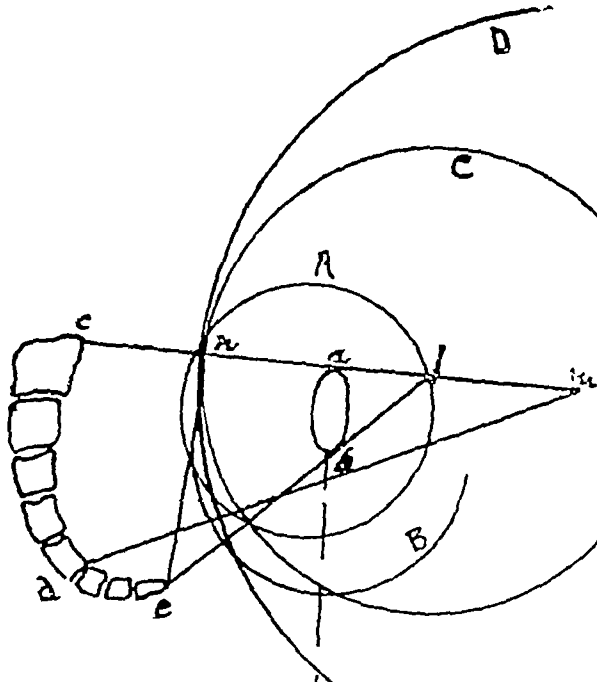

Fig 1—a, b c d, e, represent an antero posterior section of pelvis c a the plane of superior and e b, that of so called inferior strait cl el the intersecting planes of these straits d m, the produced plane of inferior strait, after Gardiner b g, vertical line measuring the various axes offered, at outlet N, E the axis of superior strait, A, circle of Carus B circle of Hodge C, the generally accepted axis, or the circle of the planes D, Gardiner's circle of the planes

It is easy enough to obtain a single circle, a segment of which shall delineate the axis of the obstetrical canal in a very practical way, if we go about it right The anterior and posterior walls must be observed separately Taking the anterior wall, we find it offers a uniform unyielding resistance, and that it extends from the top of the symphysis pubis to about half an inch below the subpubic ligament, as demonstrated by Dr Gardiner Now, we can easily conceive this anterior wall of the obstetrical canal to form a segment of some circle of which we should find the center Let us take this point half an inch below the subpubic ligament, and any two other

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[1] American Journal of Obstetrics, p 60, July, 1892

points on the posterior surface of the symphysis, as any three points in a given segment of a circle, to find the center By uniting these three points by two chords, then drawing two radii from the center of and at right angles to, the two chords and then describe a circle from the point of intersection of the two radii, as the center, passing through the three points on the anterior wall, we have consequently the true anterior wall and the circle *a*, *b*, (Fig 2) of which it forms a segment The posterior wall differs materially from the anterior Instead of two inches, it is more like ten or twelve inches long The intrapelvic portion of it, about four inches long, limited by the planes of the superior and inferior bony straits, offers like the anterior wall an unyielding resistance, this with the tip of the coccyx pushed back to its extreme limit, is all that need concern us in the study of the posterior wall, because this wall in the extrapelvic canal is so yielding that it offers no *point d'appui* on which to calculate

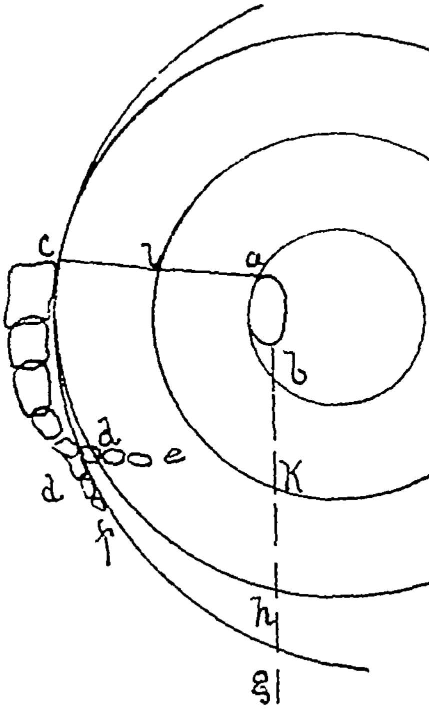

Fig 2 —Same section of pelvis as Fig 1 but d, f shows coccyx pushed back a segment of the circle a, b represents the anterior wall of the pelvis c, d, f, the eccentric circle of the posterior wall c d, h the concentric circle describing the same segment i k, the circle delineating the axis of the obstetrical canal almost mathematically correct

Now, if we take the promontory of the sacrum, the end of the sacrum, and the tip of the extended coccyx, as the three points necessary to find the circle of which the posterior walls form a segment, we shall have a circle passing through each of these points, *c*, *d*, *f* This circle might be objected to on account of the eccentricity formed by the hollow of the sacrum that is not involved The hollow of the sacrum conduces to the amplitude of the pelvis, is an advantage, and is therefore not to be taken into account when considering the disadvantages or the narrowness of the unyielding straits in a forceps operation But when we come to consider this circle in its distance below the subpubic ligament, we find it unsatisfactory This fact led me to concentrate the circles, which might readily be done by slightly increasing the sacral eccentricity, which really does not exceed one-fourth of an inch at the lower end of the sacrum, and in the upper half means nothing This deviation from the purely scientific procedure gives a more satisfactory result We then have the circle *c*, *d'*, *h*, representing the posterior wall To find the circle of which a segment shall represent the axis between the two walls just described, we have only to take half the sum of the radii of the circles of the anterior and posterior walls, as the radius of the third circle *i*, *k*, which shall be the most equidistant between both walls of the pelvis, of all the axes I have ever studied

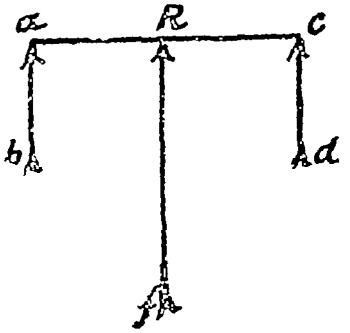

Fig 3 —a c body to which the forces ba dc, are applied and which is equally as well opposed to the central balancing or resulting force f,k

Having determined the most practical axis of any obstetrical canal, we should now consider the fact that, at the inlet, the resistances offered by the pubis and sacrum are uniform and equal, neither will yield, they are absolutely unyielding Now, if these resistances are equal, they combine so as to be represented by a resultant or single resistance, whose direction is that of the axis of the superior strait

It is well known that if the two equal and vertical forces *ba*, *dc* (Fig 3) are opposed to the two extremities of the body *ac*, they can be replaced by a single vertical force *fR*, equal to their sum and passing through the center *R*, of the body *ac*

The resistance *io eo*, (Fig 4) opposed by the walls *ab*, *cd* of the pelvis are, in reality, obliquely directed upward and inward, but these oblique resistances decompose into the inward or horizontal *if*, *ef*, and into the upward or vertical *im*, *en*

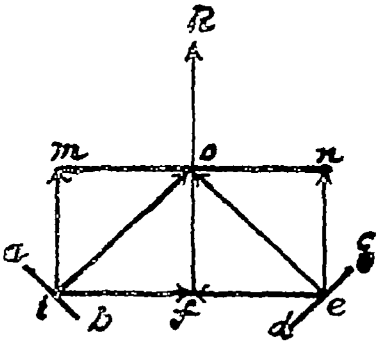

Fig 4 —ab cd the antero posterior walls of pelvic inlet io eo the resistances or forces presented by (and at angles to) these walls to the body i n n, i m e n and i f e f the resistances into which io eo are decomposed f r the resultant resistances replacing i i n e n

These two latter, as we have already seen, have a common resultant *fR*, equal to their sum and vertical like them, passing through the center *o* of the body *mn* The horizontal or inward resistance *if ef*, tend to effect the reduction of the cranium, while the vertical or upward resistances *im en*, represented by *fR*, oppose its descent

If two oblique forces could be opposed directly to the two oblique resistances offered, say, by the pubis and the promontory of the sacrum, *io*, *co*, what would be the effect? The directions of the forces would be opposite to those of the resistances, that is, downward and outward, the downward force being directly opposed to the axial resistance *fR*, would be entirely useful in overcoming it, but while the inward resistances *if*, *cf*, are useful in producing reduction of the cranium, the outward forces *fi*, *fc*, opposed to them must produce the contrary effect, expand the cranium, and hence increase the resistance

The oblique forces therefore would expand the cranium, increase the resistance, and thus tend to damage the soft parts of the mother Supposing the oblique force hypothetically opposed to the oblique resistance *io* were omitted and the force opposed to the oblique direction *oi*, then there would be left the inward resistance *if* and the outward force *fc*, acting conjointly in the same direction, *ic* toward the pubis, thus increasing the resistance at that point, and producing pressure injurious to the mother in direct proportion to the force applied Hence the application of a force in the oblique direction downward and forward at the superior strait, tends to drive the head against the pubis, make the head rotate about this point, increase the antero posterior diameter of the presenting part thus increase the resistance to be overcome, and cause unnecessary pressure to the soft parts of the pubic structure of the mother and a positive loss of a certain percentage of force applied

This is precisely the effect of the ordinary forceps applied at the superior strait in a difficult case Any forceps, ordinary or not, in the use of which, force is expressed in an oblique direction, shows the same effect more or less Hence it can be readily observed without further detail, that to overcome the resistance met with at the superior strait, with the least damage to the tissues of the mother, the force should be directly opposed to the resultant resistance and consequently traction must be made directly in the axis of the superior strait[*]

If the obstetrical canal were a straight one, this would be a very simple thing to accomplish, but since it is curved forward in such a manner as to have the axis of the inferior strait produce, with that of the superior strait, an angle of about 130 degrees (Hubert), it becomes necessary to have an instrument whose curve will approximate as conveniently as possible to that of the canal As direct force can only be expressed in straight lines, the application of direct force to such a curved instrument as the forceps, as Simpson's, of which the axes of the blades and shanks form an angle of about 160 degrees, when adjusted at the brim, not only produces a certain amount of injury to the mother, but increases the amount of resistance to be overcome, because the direction of the force thus expressed would be along an oblique line from the middle of the blades f (Fig 5), to the point of the instrument grasped by the operator, say near the lock *p*

This direction of the force is by no means directly opposed to that of the resistance *KR*, met with in the axis of the superior strait as necessary to overcome it, but is oblique, downward and forward It is thus a composite force, that can be decomposed into a vertical or downward *fs*, and a horizontal or forward force *ft* The downward force being directly opposed to the resistance, will be entirely useful in overcoming it, but the forward force, by crowding the head against and even above the pubis, can only increase the resistance and injure the soft parts of the mother by compression This compressive effect of the ordinary forceps, bears a direct ratio to the size of the angle *sfp* produced by the oblique direction of the force and that of the axis of the superior strait The larger this angle, the greater the compressive effect With Simpson's forceps, this angle is about 30 degrees, and consequently over 55 per cent of the force applied, is exerted against the pubis

I might here state that, in the paper already referred to, I termed the above angle, the *angle of compression* and the angle *pft* formed by the forward direction and the oblique direction, the *angle of extraction* But, to render the subject easier of comprehension, I made the axis of the blades (or rather the longest chord drawn on the axis) coincide with the axis of the superior strait, thus rendering the angle of compression only about 15 degrees, which can rarely happen in practice, with a perfect perineum, and consequently the angle of compression is, in reality, twice as great as that given in the paper mentioned

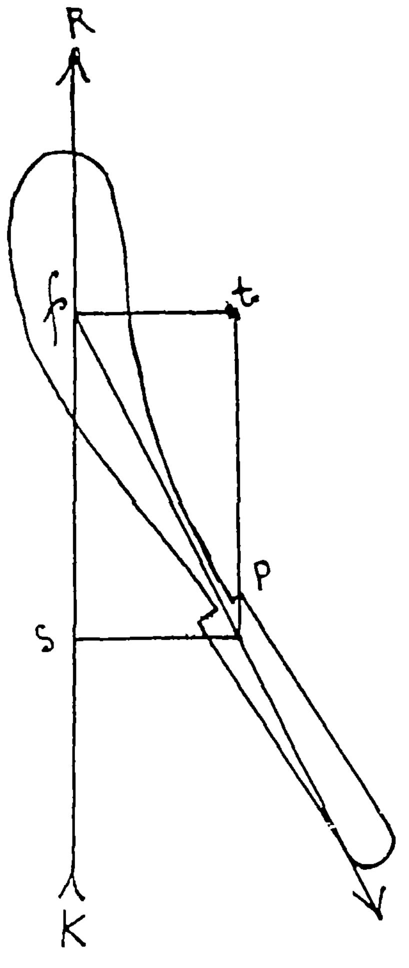

Fig 5 represents the blade, shank and handle of an ordinary forceps K, R, the axis of the superior strait or the direction of the resistance f p the direction of the force applied to the center of head, f from the from the handle near the lock P, ft, fs, the two directions in which the oblique force fP is actually expressed

To eliminate the compressive effect in the ordinary forceps, much ingenuity has been spent in devising methods of using it But these methods, such as that of Oseander and others, are effective to an uncertain extent and the success achieved is of an uncertain quantity, for such methods require, for any degree of success, a hand educated to their use—a hand that has become adroit and skillful by prolonged experience in the manipulation of three forces acting in three different directions at the same time No wonder then, that such methods have not become popular, while other means have offered a more certain result

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[*] For further details see article in Medical Record, June 10 1893

This condition of affairs led to the development of forceps in which these three directions of the force were reduced to two These forceps, among which are Hubert's and other similar models, I would term "method forceps,' inasmuch as a method of manipulating these two forces is inseparably connected with their use Then another class developed, in which ingenuity has endeavored to reduce the three directions of the force into one, and that one direction that of the axis of the superior strait, hence the name, axis traction forceps Of this class I have not found, in the market, a single positive representative If we take the rule laid down by Milne Murray, of Edinburgh, as governing the construction of the correct axis-tractor, and published by him in the *Edinburgh Journal*, and republished by Dr Keiller in the *American Journal of Obstetrics*, and examine it carefully, we shall find that no instrument made according to that rule is an axis tractor

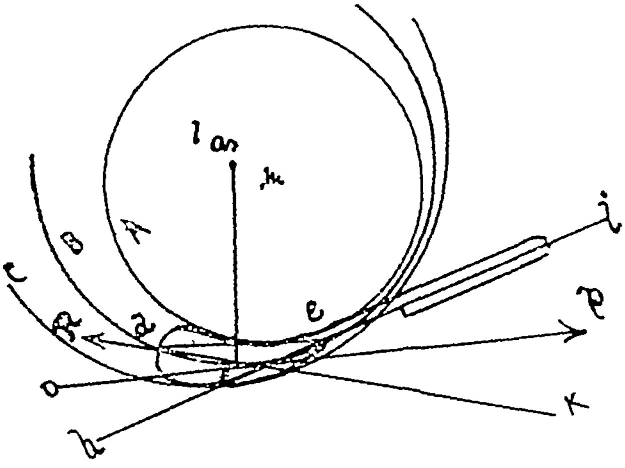

Fig 6—The central figure d f e i represents an ordinary forceps blade shank and handle A the circle of which a segment represents the smaller or anterior curve of the blade C the circle of which a segment represents the posterior curve B the circle of which a segment represents the axis of the blade hi the axis of blade and shank de the cord of the arc forming the axis of the blade f is the center of the axis Op is a tangent to this arc drawn on the central point f and parallel to the cord de KP represents the axis of the superior strait and the direction of the resistance

Milne Murray draws a cord on the axis of the blade, and then draws a tangent line, passing through the central point of this axis and parallel to the chord He insists that, *if the instrument is* correctly made, the stud of the tractor handle lies along that tangent line

If we take a Simpson forceps, and determine the axis of the blade by means of eccentric circles, made as before, we can readily prove this The anterior or smaller curve of the blade is the segment of a circle *A* (Fig 6), whose radius is five and one-fourth inches, and the posterior curve is the segment of another, *C*, with a radius of eight and one fourth inches Having the two circles, *A*, *C*, which do not intersect, it becomes an easy matter to find the third circle, *B*, whose radius is six and three-fourths inches, a segment of which represents exactly the axis of the blade, *d,f,e* Murray and Keiller, by the way, determine their axis on the assumption of guess points, chosen where the curve of the blade is supposed to begin and end If we draw the axis of the handles and shanks, *h*, *i*, its point of junction with the axis of the blade, *e*, makes the beginning of the latter, and if we unite this point with that, at the intersection of the axis and the tip of the blade *d*, we shall have the longest possible chord drawn on the axis, which is five and three-fourths inches If a tangent be drawn on the central point of this arc or axis, and parallel to the chord just described, we shall have the line along which Milne Murray tells us we must make traction Now, if you will recall the fact that the axis of the superior strait is three inches behind the posterior commissure of the vulva, we can readily observe that since this tangent is not more than one and one-half inches behind the shanks, it is impossible to make axis-traction after Milne Murray's notion On the other hand, the real axis of the superior strait is represented on the instrument, by uniting the highest point of the axis of the blade, *d*, and its center, *f* Such a line produced, *KR*, would be three inches behind the shanks, near the the handle This, indeed, is the line along which the stud should lie and traction should be made, to be in the axis of the superior strait

Having, to some extent, determined the character of the work to be effected at the superior strait, and having supplied the requisite tool in the axis traction forceps, we may safely imagine the head of the child to have passed the superior strait and to rest on the floor of the pelvis Now, we must consider that the conditions which obtained at the superior strait and necessitated axis-traction, being different from, and I might say absolutely contrary to, those at the outlet, the exigencies of the latter are of an entirely different character from those of the former, and consequently, when the direction of the force leaves that of the axis of the superior strait, the axis traction instrument becomes a dangerous one The conditions and exigencies of the outlet differ from those of the superior strait, in that the resistances are *unequal* and consequently can not be represented by a central resistance whose direction would be that of the axis of the canal—one part of the strait being composed of a fixed, bony, unyielding resistance, as offered by the pubic arch, and the other part composed of the yielding structure of the perineum, which offers much less resistance than the former These two *unequal* resistances allow the balance of the force applied in the axis of the canal, to be spent on the perineum, as the point of less resistance, which can rarely escape rupture

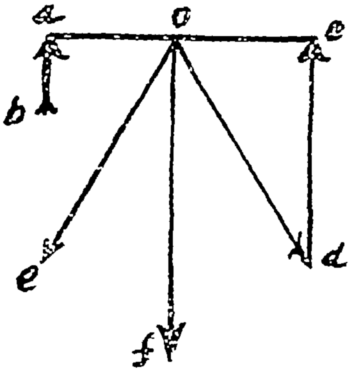

Fig 7—ac body opposed by the two unequal resistances ba dc of the force applied in the axis or middle of the body ac oe the direction in which the force of is actually spent *i.e in the posterior oblique* od the anterior oblique representing of oc

When all the resistances opposed by the walls of a canal to a body moving in it, are *equal*, they can be represented by a single resistance, expressed in the center or axis of the canal, and overcome completely by a *force exerted along that axis, as illustrated at* the superior strait, but when the resistances are unequal and the force is applied in the axis of the canal, the body is arrested at the point of greatest resistance, and the force continuing, it is propelled in the direction of the lesser resistance, as well as in that of the axis of the canal In fact it rotates around that point of greater resistance, as around a pivot, thus producing extension of the head, and increasing the antero posterior diameter of the presenting part

If the two unequal and vertical resistant forces *b a d c*, (Fig 7) be applied to the body, *a c*, they can be replaced by a single vertical force, not passing through the center *o* of the body *a c*, but through a point corresponding to its percussion point, approaching the greater resistance, *d c*, in proportion to the greater weakness of the resistance, *b a* If, for example, the resistances were in the proportion of 1 to 3, these resistances would be equally overcome if the force were applied three times nearer the point of greater resistance But, since this is impracticable, and an axial force, *o f*, tends to propel the body, *a c*, backward toward *a* and downward toward *f*, or along their any resultant *o*, *c*, in an oblique direction downward and backward, to relieve the strain on the weaker structure, the perineum, we have only to divert the oblique direction of the force *o c* into the opposite oblique direction, *o d* Thus it will be observed that this anterior oblique direction of the force, o *d*, corresponds with the oblique direction of the force *f p* (Fig 5) in the ordinary curved forceps, as demonstrated above

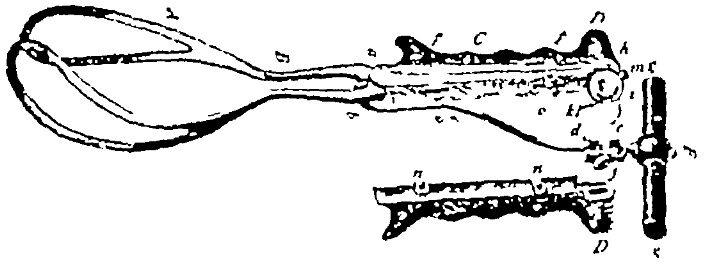

Fig 8—A blade B shanks C handle DD detachable rubber side pieces E the axis traction attachment *a*, socket between shanks for hook b of traction rod d ball end of rod e clamp socket for d f thumb screw for screwing the ball and socket joint gg the rubber cross bar, h the ordinary Elliot wheel and threaded bar I, an additional wheel with a half threaded slot on opposite side, which both form the lock KI, a quarter circle slot and piece limiting the motion of lock wheel or small knob on lock wheel n n, metallic lugs which hold side pieces in place oo, grooves in the metal for the reception of the lugs pp screws passing antero posteriorly through the metal and flat where they pass through the grooves a quarter turn of these screws locks or unlocks the side pieces securely to the metallic portion

Hence, the proper or perfect obstetric forceps is *one in which the force* can be expressed in the axis of the superior strait, and in the anterior oblique direction at the outlet

The forceps which I have the pleasure of exhibiting to you, (Fig 8) consist of the old familiar Simpson blades and shanks, the Elliott handles, and this simple traction rod, and an exceedingly practical lock, *and permits* admirably of just such expression of the force (Fig 9) At the superior strait it is an excellent axis-traction forceps, at the outlet it is the most desirable model of the ordinary forceps Though the fetal head is free to rotate, the instrument can not slip It is not a Tarnier model, and possesses none of the defects of such, nor does it require an expert to use it *Whoever can* use an ordinary forceps can use this as readily and as successfully as any expert It does not produce that feeling of insecurity and uncertainty, for the muscular sense of the *operator is always called into play the same as with* the common forceps

The perineum may be pushed back by the shanks of the instrument, without seriously altering the position of the blades, just as in the use of the common forceps This, in some cases, is an absolute necessity, depending upon the situation of the posterior commissure of the vulva This adaptability of the instrument to the canal is possessed by no other non rigid forceps There is, in fact, no other instrument that will permit of rotation during the traction, and allow of axis-traction in every case

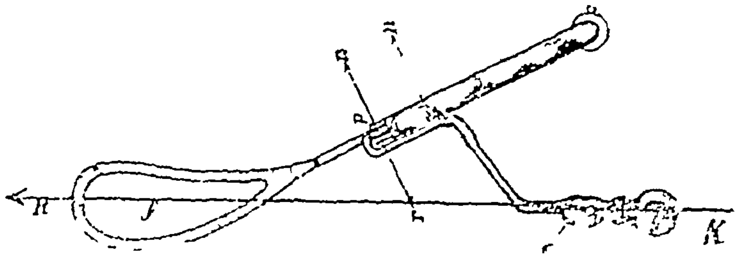

Fig 9—Side view of forceps, with its mechanical effect KR direction of resistance as met with at the superior strait f center of blade D ball and socket joint Notice that the socket piece and the ball end of the rod are in the same straight line P decussation of shanks showing the socket receiving the hook end of the traction rod pn pe the actual expression of the force evolved from the lever effect of the traction rod en, the direct leverage force translated to pn

Bearing in mind the correction of the conventional error hereinbefore mentioned, a very adequate description of the forceps will be found in the *Medical Record* of June 10, 1893

This instrument is manufactured by Richard Kny & Co, of New York city

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THE VAGINAL ROUTE FOR OPERATIONS ON THE PELVIC VISCERA

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth *Annual Meeting of the* American Medical Association at Baltimore, Md, May 7 10, 1895

BY D TOD GILLIAM M D

COLUMBUS, OHIO

Everything indicates that we are about to have an epidemic of transvaginal surgery Salpingectomy, cholecystotomy, nephrectomy and operations for appendicitis have ceased to be novelties and have therefore to an extent lost their charm Men are merely boys grown up and, like boys, are fond of exploit and adventure This in the main results in good by advancing knowledge, developing manual dexterity and evolving new methods The pity is that in the name and guise of science and the *legitimate pursuit* of this noblest art so much is done for self, to the detriment of the patient The surgeon should never aspire to a record, the best interests of his patient, the advancement of his art and the greatest ultimate good to his race should be the aim and object of his life To such an one, fame, *honor* and *confidence* of the profession and people will come in due time, and will come to stay From this standpoint let us look into the merits and demerits of this new fad, endeavor to prescribe its scope and limits, and by comparison with older and better known methods strive to affix its proper status in gynecologic surgery

That many operations on the pelvic viscera through the vagina are practicable is well known to every one at all conversant with gynecologic history, and there are few gynecologists of long or extensive practice who have not essayed most of them Some years ago, indeed, it was the favorite and almost only method practiced, and there are doubtless elderly men in this assembly to day who could give us pointers in vaginal surgery We can all remember the time when abscesses and other fluid collections in the pelvis were attacked through the vaginal vault and when submucous and interstitial uterine fibroids, even of large size, were removed per vaginam At a later period the uterine appendages and even ectopic gestation ovarian cysts and the uterus itself were removed by this route It remained for Péan and his collaborators to cap the climax by removing the fixed uterus by morcellation through the same channel It is the latter, with its extensions to other conditions, that has given the wonderful impulse to transvaginal surgery that we witness to day

Let us briefly inquire into the advantages and disadvantages of the vaginal route, as compared with that by abdominal section, as it is between these that the issue lies In the former we obviate section of the abdominal wall with its resultant scar This scar is not only disfiguring and repulsive to the sensitive nature of the most sensitive of beings, but entails a feeling of weakness and insecurity, is at times painful and not infrequently the site of hernia Furthermore, the omentum or bowel invariably becomes adherent to it and is liable to give rise to distressing, if not dangerous sequelæ It is now generally conceded that the shock of the vaginal operation as compared with that of abdominal section is trivial, because the intestines, the most sensitive of the abdominal viscera, are not exposed or handled This is far-reaching, for not only may the shock itself be dangerous to life, but by diminishing vital resistance it predisposes to sepsis and cripples the functions of important organs Intestinal paralysis does not occur

Sepsis, the bane of abdominal surgery, is less frequent in the transvaginal surgery 1, because the pelvic peritoneum is better able to cope with germs, 2, because the route of invasion is less direct and against the tide of outflowing serum, and 3, because the germicidal powers of the splanchnic viscera are unabated From a well known fact that the vagina is the natural habitat of pathogenic germs of many varieties, that it is sometimes exceedingly foul, and from the supposed impossibility of rendering it surgically clean, I, with many others, had a dread of entering the peritoneal cavity by that route and always, when possible, refrained from doing so I now have no more hesitation on that score I believe with douches and a thorough scrubbing with creoline mollin we can render the vagina as aseptic as the skin Again, in removing septic matters through the abdominal incision there is always a chance of peritoneal contamination and in many instances, as enucleating pus tubes, inundation of the cavity is unavoidable This is always avoidable in the operation from below Drainage through the vagina is incomparably more efficient than through the abdomen The vaginal drainage is natural, perfect and with gravity Abdominal drainage is against gravity Not only so, but the animal fluids coating the tube or filling the meshes of the gauze afford an excellent culture medium for stray germs, which naturally make their way downward or inward On the other hand, the outflow of fluids toward and into the vagina, not only prevents the accumulation of septic matter in the pelvis, but washes away any that may be seeking entrance from below So far the advantages are decidedly with the vaginal route, but it has its disadvantages It is optional with the abdominal surgeon how much room he may make for himself He can always keep the objective point under the eye or finger He has ample facilities for seeing and knowing the position and surroundings, for avoiding important structures, ligating vessels and guarding against mischance The ability to control circumstances and to advance with open eyes constitutes good surgery Moreover his field is not abridged or limited He can pursue the malady to the uttermost limits and he can preserve the healthy while eliminating the diseased Should there be a mistaken diagnosis he can tack about and still be master of the situation With the vaginal surgeon it is different His field is limited, his operative space not amenable to optional extension His facilities for meeting emergencies are meager He is working in cramped quarters and ofttimes at a great disadvantage It follows, then, that vaginal surgery has a sphere of its own It can not aspire to supplant abdominal surgery nor yet in any large measure trench upon it The possibilities of vaginal surgery will depend largely upon fortuitous circumstances With a large, lax and shallow vagina many operative procedures may be feasible, but with a narrow, deep and unyielding one, even the more common of the operations may be rendered difficult or impossible I speak knowingly on this subject, for I have had experiences in both directions I have removed submucous fibroids, pelvic cysts and the malignant uterus as large as the fetal head, sometimes with comparative ease I have signally failed to remove the fixed uterus on two occasions, on account of the narrowness, depth of the canal and unyielding structures about its outlet In the first instance, incising the perineum failed to relieve the situation on account of the great depth of the canal In the last, I was provided with Péan's retractors and all the appurtenances used by him It was with the utmost difficulty that the retractors were introduced, and then, after prolonged effort it was found impossible to dilate the passage As it is a cardinal rule never to go with the scissors or forceps where the eye or finger can not follow, I found it impracticable to complete the operation Whether Péan or Jacobs could have done so, I know not, but I do know that the average surgeon would have failed as I did or done worse at a blind attempt at the impracticable To my mind the field of transvaginal surgery includes hysterectomy of the normal or slightly enlarged uterus, the removal of the appendages when accessible, the drainage of the pelvic abscess, the morcellation of intra-uterine fibroids of moderate size and, possibly also, the extirpation of free cysts, low down in the pelvis

It is unnecessary for me to say anything with reference to the technique, as this has been worked out so thoroughly as to leave little to be desired or expected There are one or two points, however, to which I would like to call attention, and which I I have found in my own practice to have been of material advantage A modified Trendelenburg position contributed greatly to the facilities for operating, by giving a much better light and by preventing the prolapse of intestines, which at times are annoying Should there be purulent or septic collections in or about the field of operation this position would never be dispensed with. In many cases the short posterior retractor is vastly more efficient than the long ones used in Europe. It enables you to bring the vaginal vault within easy reach, and to follow the steps of the operation with much more ease and precision than when one has to work in the depths of a deep hole. Even in cases of fixation I have been able at times to use the short retractor to greater advantage than the long one, and I am so imbued with its value that I would be loth to attempt any of the more serious operations through the vaginal vault without having one at hand. Feeling the want of a self-retaining retractor, that was simple and efficient, I devised the instrument which I now show you. You will observe that it consists of two pieces. The holder which passes under the sacrum and is held firm by the weight of the body and at the extremity of which is a steel pin for holding, and a screw for adjusting, the blade of the retractor at any angle. The retractor has a short handle with notches on the inner aspect and a ring at the end. In adjusting the speculum it is introduced as any other, then the index finger of the left hand is placed on the blade where it curves inward, while the thumb is placed under the free end or screw of the holder. Now, with the finger of the right hand in the ring of the handle, the retractor is guided into position through the slot on the side, while the blade and holder are approximated by pressure between the thumb and finger. Once in position it is easy to secure the desired degree of perineal retraction by increasing the pressure when it locks itself automatically. Now by turning the thumb screw the inclination of the blade may be changed at will. The mechanism is very simple, the movements are easy, the result all that could be desired. Besides the instrument, as a whole, takes up very little space and can be carried almost as easily as a bivalve speculum.

REMOTE RESULTS OF REMOVAL OF UTERINE APPENDAGES

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

BY E. E. MONTGOMERY, M.D.
PHILADELPHIA, PA.

The introduction of the operation for removal of the tubes and ovaries as advocated almost simultaneously by Battey, Tait and Hegar, though upon distinctly different lines, opened up an extensive field for the practice of abdominal surgery. The enthusiasm of their followers necessarily resulted in the practice of the procedure in many cases when it was of doubtful utility. Battey advocated the operation for intolerable dysmenorrhea; Tait for distinctly recognizable pathologic lesions in tubes and ovaries, principally of an inflammatory character; Hegar to produce an artificial menopause in cases of uterine hemorrhage otherwise uncontrollable.

These distinctly defined indications soon became extended, so that pelvic pain of slight degree, whether associated with menstruation or not, has been considered an excuse for the removal of the organs. Ovaries and tubes have been removed in which careful macroscopic investigation has failed to disclose much, if any, evidence of disease.

The experience of over twenty years has afforded opportunity to study the immediate and remote effects of operations which, at least, must have a profound effect upon the mental and physical nature of the individual in the interference with the procreative function.

It is a well recognized law of nature that unused faculties atrophy, so that it is not surprising to find that after castration of the unmarried female, the genital organs become smaller, the vaginal rugæ disappear and the mucous membrane is thinner and paler. In the married or those who subsequently marry, sexual desire becomes quiescent or even disappears, and to some the marital relation is painful and repugnant. Instead of being a willing and sympathetic partner in the act, she passes through the stages of indifference and passive suffering to disgust and distress.

If the condition just mentioned were the only unpleasant symptom, it would be a matter of but little moment. The most marked influence is upon the nervous system. It is generally recognized that the climacteric is a critical period in the life of every woman, one to which she looks forward with anxiety, realizing that hereditary traits and unpleasant phenomena are likely then to manifest themselves. If this be true when the woman matures and reaches the period undisturbed, how much more likely is she to suffer when the climacteric is abruptly and artificially induced, without nature having had an opportunity to prepare her forces for the changed relation.

Every operator is familiar with the flushing, vasomotor disturbances not unfrequently affecting the action of every organ of the body. These do not always disappear in a short period as in the natural menopause, but may continue for years, being a constant source of annoyance and discomfort. While it is true that many patients recover an appearance of good health who were previously great sufferers, in many this improvement will be found to be but temporary. Frequent attacks of neuralgia or neurasthenic pain in both ovarian regions as intense as prior to operation, in the uterus, in the intestines, the bladder, or the rectum; insomnia, restlessness and irritability of temper are not uncommon. Even if the individual may have had no desire for offspring, the assurance that motherhood is denied her frequently leads to intense longing for a child. When, however, she has been desirous for children and the possibility is precluded by an operation, the declining sexual appetite not unfrequently leads to a profound melancholy in which she feels life without solace or comfort.

Changes in pigmentation have been observed and it has been asserted that through menstruation certain material is eliminated which in its cessation is retained, producing splotches and discolorations of the skin, or the profound nervous manifestations.

The mental and nervous phenomena may be actuated or aggravated by the sequelæ of the surgical procedures, such as fistulæ, ventral herniæ, painful cicatrices, adhesions of intestines to the uterus, to the stumps, and to the bladder; cellular exudation, infection of ligatures, and the formation of abscess, immediately following the operation or years later.

A case recently came under my observation where, over four years after castration for bleeding fibroid, an abscess formed, which opened in the upper part of the cicatrix. An incision disclosed a large loop of silk in the abscess cavity.

Leucorrhea and irregular profuse uterine hemorrhage not unfrequently follow the removal of both ovaries Such an array of unpleasant phenomena, associated with the necessary mortality of the procedure when carefully and conscientiously done, should cause the surgeon to hesitate and weigh the condition of each case carefully before resorting to surgical procedure

I would by no means wish to be understood as denying the necessity and wisdom of operative procedure in necessary cases, but would demand that careful study of the case should determine that the determined procedure was the necessary course for relief

A careful survey of the immediate and remote influences of pelvic surgery justifies the following conclusions

1 No mutilation or sacrificial operation should be done, where there is a reasonable probability of relieving the inflammatory condition through vaginal incision and drainage

2 Efforts should be made to preserve portions of an ovary and a tube through resection, where partially diseased

3 Where the ovaries and tubes are diseased, to such a degree as to require their complete removal, the patient is less likely to suffer from profound nervous phenomena if the operation be associated with hysterectomy

4 Castration should be done for neuroses, only after it has been demonstrated by the experience of capable neurologists that the operation is the *dernier ressort*

DISCUSSION

Dr Henry P Newman, of Chicago—said the subject under discussion was one of vital interest not only to the operator, but decidedly so to the patient He had never seen a case in which removal of the uterine appendages produced insanity or an outward physical change in the patient, nor had he seen it result in any sexual deterioration to any great extent In some instances, possibly that had been complained of He expressed the opinion that before the operation is performed, its possible ill results should be carefully placed before the patient Furthermore, it should only be performed for actual structural changes in the appendages, and not for mere pain

Dr M B Ward, of Topeka, Kan —said that where healthy ovaries are removed in young women, very marked nervous symptoms are produced—indeed so marked that we ought never to do the operation if we can avoid it He has never seen insanity result from it however, nor a loss of the sexual appetite The operation is sometimes followed by a very troublesome leucorrhea In all cases it is well to postpone the operation as long as possible Nervous and hysterical patients have greatly improved after the operation

Dr Rufus B Hall of Cincinnati—had frequently seen patients suffer mental depression following operations for removal of diseased appendages With one exception he had never seen insanity follow the operation This exception was a woman, two of whose sisters had previously died in an insane hospital, and who showed a strong history of hereditary insanity She died some time after the operation had been performed There was a large suppurating ovary, and the woman had had gonorrhea He does not operate for reflex symptoms Accumulation of fat usually occurs after the operation this disappearing, however, at the menopause He has never seen a growth of hair following celiotomy So far as blunting of the sexual appetite is concerned, he had seen a few instances where this feeling was blunted In no instance had it entirely disappeared

Dr G Betton Massey, of Philadelphia—remarked that his experience on this subject was possibly somewhat peculiar in view of the fact that the cases he had seen had been operated upon by other men, and his experience fully corroborates the large number of instances mentioned by Dr Montgomery, of physical and nervous disorders that follow the removal of the ovaries In one case a form of melancholia undoubtedly resulted from the operation In many cases, after the removal of the ovaries in young girls, their moral nature is greatly changed, the sexual feeling is not extinguished, but is largely limited by the operation He has never seen an extra growth of hair on the face or elsewhere result from the operation

Dr Howard A Kelly, of Baltimore—had encountered six or eight cases of insanity after operation, one case after an abdominal operation and one after curettement All of the abdominal cases got well When a woman asks him what bodily changes will follow the operation he tells her that she will get stouter and recover her health The possible loss of sexual power does not militate against the performance of the operation, because these patients are usually in such a condition that they have not enjoyed sexual intercourse for years On the contrary, the operation often restores family relations which have been impossible for years

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TREATMENT OF CONTRACTIONS OR STENOSIS OF THE UTERINE CANAL

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore Md May 7-10 1895

BY WILLIAM A B SELLMAN, M D

PROFESSOR OF OBSTETRICS AND DISEASES OF WOMEN, BALTIMORE UNIVERSITY BALTIMORE, MD

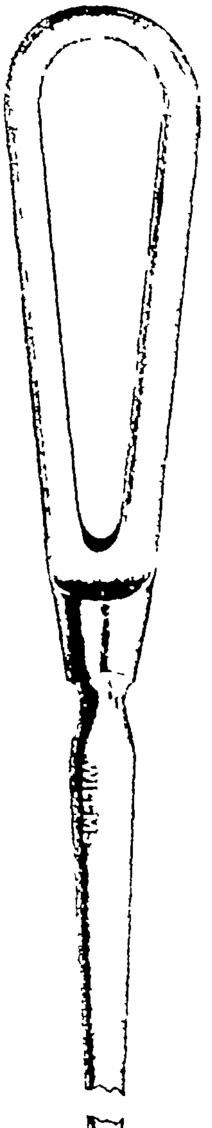
Contracted condition of the uterine canal has been treated by various methods The slitting up of the cervix is a very unsatisfactory operation, as well as a dangerous one The enlargement of the canal by means of the sharp curette is uncertain in its results, as the instrument merely scrapes furrows in the tissues and the part soon returns to its previous small caliber I have attempted to obviate this by imparting a circular motion to the instrument during the operation and, by this means, reaming out the dense tissue at the point of contraction

Hundreds, yes, thousands of women suffer from dysmenorrhea on account of the uterine canal being contracted at some point The condition may be acquired or congenital After amputation of the neck of the uterus, the external os frequently contracts to such an extent that we fail to pass our smallest probe I intend in this paper to speak more definitely as to the stenosed condition that we find existing at the internal os These contractions are generally formed of tissue of a denser nature than normal mucous membrane and many times it is of a decidedly cicatricial character This density of the tissue and this cicatricial character is frequently the cause of the displacement of the organ that we find existing in many of these cases The fundus of the uterus is pulled over one way or the other, and after the caliber of the canal has been increased we find that the displacement has also been corrected

I desire at this time to call your attention to a new instrument to remove this condition of stenosis I call it my reamer

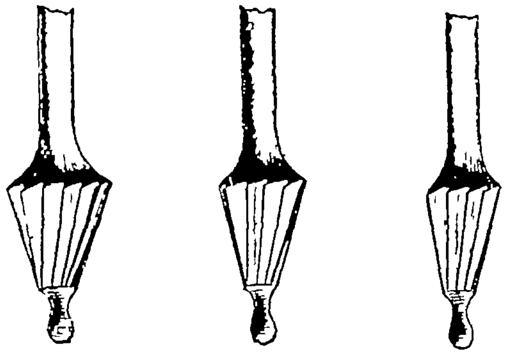
This reamer is intended to be used to take the place of the slitting up operation and also to supersede the use of the curette Dysmenorrhea persisting on account of a narrow and, at times, an almost impervious condition of the uterine canal, or due perhaps to the existence of a ring of dense cicatricial tissue at the internal os, which dams back the flow of blood or secretions—these call for the use of the reamer Rapid dilatation in many cases gives but temporary relief, as the parts return to their previous condition soon after the stretching operation has been performed The dilator does not remove the dense tissue, it only lacerates it The curette merely scrapes furrows in the tissue and the contraction remains

With the use of the reamer, this tissue is reamed out or cut away by the knives placed upon the sides of the instrument They are made in three sizes, begin with the smallest and gradually enlarge, and when you have accomplished all that you can do with this size, withdraw it and introduce a larger size



The blunt probe pointed end is introduced first and pushed in the constricted canal, a circular motion is imparted to the handle, and a moderate amount of pressure is exerted to cause the knives to engage upon the tissue, which at times is so hard that even the keenest knife has difficulty in making an impression upon it The instrument works very much like a pencil sharpener paring away the tissue in slices At times the constriction is so great that a small dilator has to be made use of, before the expanded portion of the instrument can be made to enter the narrowed uterine canal As a rule, if the operation is properly carried out, a second operation will not be required The patient should be under the influence of an anesthetic, if there be much tissue to be removed or if she be of a nervous temperament

The operation is frequently performed at the surgeon's office and the patient allowed to go about her accustomed duties, this is in cases of slight stenosis When a large amount of tissue has been removed, it is prudent to place your patient in bed from four to seven days After removing the tissue, swab the part operated upon with pure carbolic acid, and introduce a strip of iodoform gauze to the fundus uteri, allowing the free end to extend down into the vagina to the lips of the vulva This insures thorough drainage and prevents the raw surfaces from uniting by first intention Allow this drainage tape to remain until the evening of the second day, then the nurse or patient removes it and a carbolized douche is given The surgeon introduces another drainage tape at noon of the following day Continue this treatment for ten days These reamers will not remove fungous growths from the walls of the uterus, neither are they intended to remove retained membranes from the uterine canal



Donations to New York Charities—Under the will of Mrs Bertha May, late of New York City, a property valued at $23,000, has been donated to four charitable institutions in that city and Brooklyn She leaves her property to the Mount Sinai Hospital, the Home for Aged and Infirm Hebrews, the Hebrew Orphan Asylum in Brooklyn, and the Home of the Little Sisters of the Poor

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A NEW SELF-RETAINING PERINEAL RETRACTOR

Read in the Section on Obstetrics and Diseases of Women at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7 10, 1895

BY A E ROCKEY, A M, M D

PORTLAND ORE

The first requirement in operations on the uterus is that the organ should be exposed and held in such position that it may be accessible The perineal retractor of Sims was a great step forward, but its narrowness and length of blade and the inconvenience of the prone position have at the present time consigned it to a rather minor place as an instrument for examination

The retractor of Simon or some of its numerous modifications, with their shorter and broader blades, have almost universally superseded Sims' instrument in operations on the uterus My own preference has been for that of A Martin It has essentially the Simon blade, with a broad outer flange, and a long, heavy handle The perfect command of the field of observation given by this instrument, when held by skilled assistants, leaves but little to be desired

The marked advantage of a short intravaginal portion is that it offers no obstruction to the ready descent of the uterus when drawn by the tenaculum forceps

For vaginal hysterectomy, high amputation of the cervix, ligation of the uterine arteries, or any operation requiring full command of the vaginal vault, no self-retaining or purely mechanical device can ever take the place of trained assistants In this way only, can that ready change of tension or position be obtained by word or sign, that facilitates so much the work of the operator

Numerically speaking, however, operations of this class form but a small part of the work of the practitioner It is a matter of common observation in practice that conditions requiring dilatation and curettement or simple trachelorrhaphy outnumber those mentioned five to one Indeed, in general practice they outnumber all other operations on the female organs

Hospital experience can not be taken as perfectly representing private practice in this respect, and yet the most extensive reports substantiate the truth of this statement

The second Report in Gynecology from Johns Hopkins Hospital, covering a period of nearly three years, contains a table of 815 general gynecologic operations not involving celiotomy

On examination of the table we find that 416 operations involved the cervix or cavity of the uterus They may be divided into three classes, as follows

1 Dilatation and curettement for stenosis, endometritis fungosa, pyo-physometra and retained products of conception—265 operations

2 Trachelorrhaphy for lacerated cervix—103 operations

3 Curettement of cancerous cervix and removal of polypi of cervical canal—48 operations

The considerable preponderance of these minor operations and the difficulty or inconvenience of always obtaining suitable assistants, and, sometimes the embarrassment of their presence in private families, has made it desirable to have some purely mechanical device for exposing the uterus

The limited field of operation has also made it possible to accomplish this with a greater or less degree of success For these reasons a considerable number of such instruments have been devised

Prominent among them is Emmet's self retaining perineal retractor The perineal portion is shorter and wider than Sims and the point of resistance is an oval frame to rest over the dorsum of the sacrum It was designed for use in the semi-prone position By reason of the extremely various contour of this part, the frame does not always fit well and is liable to slip To obviate this difficulty, the modifications of Cleveland, Hunter and Erich have shoulder straps or bands to hold them in place These contrivances have proven awkward and cumbersome and are, consequently, but little used

The Edebohl retractor, which is held in place by a bucket of shot or other weight, would be efficient when the conditions of its use are well complied with, but it must be inconvenient in private practice

The most recent instrument of this class, and, I think, the best yet presented to the profession, was devised by Dr Samuel C Beach, and was exhibited at the June meeting of the Chicago Gynecological Society

The retractor is an ordinary perineal retractor, but has the handle forked and turned at right angles to the plane of the blade The retaining mechanism consists of a flat band of metal, hinged at its center for convenience in carrying In use, this band is slipped under the body of the patient, lying in the dorsal position, with the thighs flexed, thus making a fixed point of attachment for the retractor, which slips into the inlet ring in the retaining bar and is held by a thumb-screw The legs are held by a McBride-Packard yoke

With the same object in view, I have devised an instrument which, unlike any other of its kind, utilizes the under surface of the pubic arch as a more convenient and uniform point for the support of the retractor This instrument consists of two pieces—a perineal retractor and a sub pubic rest

The perineal retractor has a blade like Martin's, ane also a long, heavy handle, but with the hook placed posteriorly at the lower part of the swell, thus affording a very firm grasp and at the same time a rest to the hand of the assistant By examining Martin's retractor it will be seen that the hook is placed at the end of the spindle-shaped part of the handle, and is always about two inches below the firm grasp given by the large part of the handle

To a considerable extent I am indebted to a remark by one of Martin's assistants for this improvement. It was after a long clinic, where two vaginal hysterectomies and several minor operations had been performed, that I tarried to speak with the assistant, who referred to that feature of the otherwise perfect instrument as, "*Nicht bequem für ein assistent*"

The perineal part may be used alone to be held by an assistant in major operations on the uterus, and possesses all the merits of Martin's with the addition of a better grip on the handle It is also an admirable retractor for use in abdominal work

The heavy handle has been objected to by some who have examined, but not tried, the instrument This is one of the decided advantages It gives the assistant an easier command of the perineum, not only for its retraction, but with the instrument I have devised for its shortening by upward pressure as well, when occasion requires it

The distinctive feature of my instrument is the sub-pubic rest from which retraction is maintained The blade is short, well curved on the top to fit the under side of the pubic arch, and corrugated near the tip to prevent slipping It is attached to the perineal portion by a notched bar, sliding in hooks on the side of the blade, the compression of the parts locking it firmly in position without intervention of screws It is easily adjustable, and may be placed or detached without removing the perineal portion This piece has been cast from phosphor bronze to give it greater strength

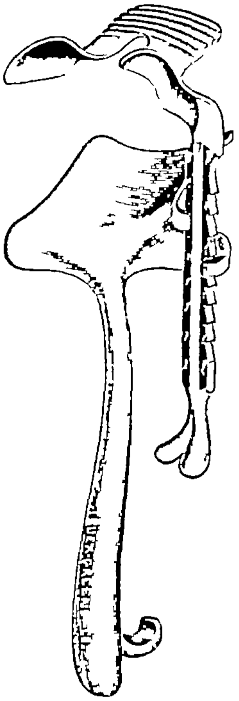

Fig 1—The auther s self retaining perineal retractor

In use, the perineal portion should be first inserted and well retracted, and then the subpubic rest introduced and pushed to place If the directions of this sentence are carefully followed there can be no difficulty in its use The perineum should be retracted by a strong pull on the handle and but little upward pressure will be required on the subpubic rest In fat women the thickness of the external parts make it necessary to push the upper part of the instrument well in between the labia in order that the curve of the short blade may rest upon the pubic bone By the observance of these precautions there will be no slipping and the command of the field of operation is almost as great as that obtained by manual retraction by good assistants and surely superior to timid makeshifts that must sometimes be resorted to in emergency The blades being short, the cervix is not always exposed at once The vaginal fold should then be pushed aside with the finger and the cervix seized with the tenaculum forceps and drawn down

In connection with operations of this kind, I desire to refer to two adjuncts, viz, leg holders and tenaculum forceps A most convenient and efficient leg holder may be made from a strip of muslin half a yard wide and two yards long, with slits through the center through which the arms and shoulders are passed The thighs are then fixed and the bandage placed around well under the knee and fastened with a large safety pin

The heavy American bullet forceps, with lock, has proved not only the best instrument for holding down the uterus but a superior tenaculum and tissue forceps in many general gynecologic operations as well

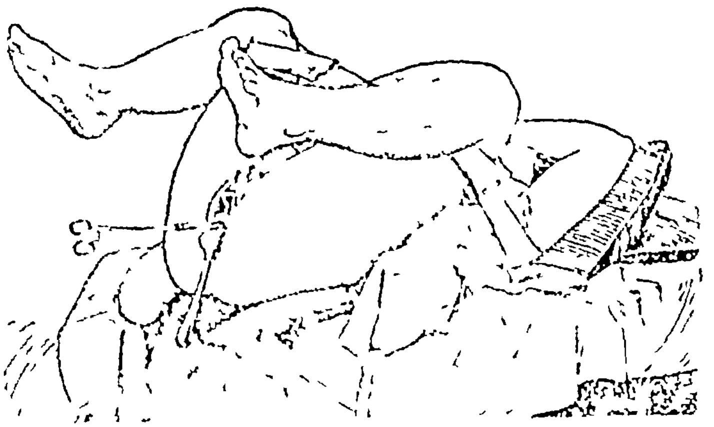
Figure 2

In the year that has elapsed since my instrument was devised I have used it in many operations on the cervix and cavity of the uterus and the requirements have been admirably met It was constructed for me by Charles Truax, Greene & Co, of Chicago

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THE SERUM TREATMENT OF DIPHTHERIA

Read before the Michigan State Medical Society at Bay City June 6 1895

BY CHAS T McCLINTOCK, Ph D, M D

ANN ARBOR, MICH

There can be no reasonable doubt that the larger part of the ill-effects of diphtheria, are due to the soluble poisons (toxins) formed by, or during the growth of the germs of the disease The paralysis, the albuminuria, the necrosis in the various organs can all be produced at will with these poisons Here is a diphtheria toxin This was made by inoculating a flask of alkalin beef tea with a virulent culture of the diphtheria germ This germ was obtained in December last from a child in Harper Hospital, Detroit After the flask had been in the incubator, at the body temperature, for several weeks, the germs were killed by the addition of carbolic acid The beef tea, or as we now call it, toxin, was filtered, first through paper, and then through porcelain The latter removes all the germs On testing this, we find that one-tenth c c, or a large drop, is sufficient to kill a half grown guinea pig within thirty-six hours Had we cared to study this, as has been done over and over again, we would have given a smaller dose, one sufficient to kill the animal in five or six days Then had we studied this animal clinically, we would find all the essential phenomena noticed in a fatal case of the disease in a child We would have the fever, more or less albuminuria, the paralysis, and on section we would find the necrosis

From such studies, and the like is not true of this disease alone, there is but one conclusion—the toxin is the cause of the fever, the paralysis, the necrosis, the death I need only mention that when the system is weakened by this poison, it is often preyed on by the pus germs, streptococci, etc, and that these may hasten and modify the uncomplicated disease This poison, the diphtheria toxin, is produced by the germs of the disease which are generally confined to the upper air passages The poison is absorbed, and circulating throughout the body produces its harmful effects, it may be, in every organ

The above being true, it follows that when we have a natural recovery from the disease, the body must in some way dispose of or destroy this poison, and the thought is at once suggested that, knowing the cause of the disease, it may be possible to find an antidote, an anti-toxin, a something which when introduced into the body may destroy, or so aid the cells of the body that they can destroy this poison Such a substance we have in the antitoxic serum of Behring and Roux And here may I say, that it was not a happy thought, not a revelation, not a happening, that led Behring to antitoxin Ever since Pasteur's work in 1880, away back in the ancient history of bacteriology, we have been gradually approaching antitoxin, a fact here, a theory there, step by step, scores of observers aiding in the work, until at last this worker, placing together all that had been done before him, saw how it might be completed It had been shown 1, that the disease was due to a toxin circulating in the blood and lymph, 2, that the animal body had more or less power to neutralize, destroy, or dispose of this toxin, 3, that this power varied with the age and species of animal, an older animal or one of a certain species having much more resisting power 4, by appropriate treatment this poison-destroying or antitoxic power could be increased, 5, that this power could be borrowed by taking the blood, or blood serum of the resistant animal, and loaned to the one with less resistance These experiments on animals having shown the possibilities in the work, Behring began his work of perfecting the methods Before it could be applied to the cure of diphtheria in the human being, the poison-destroying or antitoxic power of the blood in the animal used must be enormously increased, so that a small part of its blood serum would be able to neutralize or destroy all the poison produced in an ordinary case of the disease Again, an animal must be used whose blood serum when introduced into the human circulation would produce little or no ill effects Again, methods of preserving the serum must be discovered, so that it could be sent wherever needed Methods for measuring its worth, poison-destroying or antitoxic power must be devised These difficulties, Behring asserts, were one by one overcome Various animals were experimented on—rabbits, sheep, goats, cattle, horses It may be well to note that a satisfactory antitoxin was first worked out for tetanus, not diphtheria But possibly on account of the infrequency of this disease, together with the fact that almost irreparable damage is done before it can be recognized clinically, and probably still more to the fact that the news was too good to believe, but little attention was given by the profession at large to these results Not until after the reading of Roux's paper at the International Congress of Hygiene, held in Buda-Pesth, September last, was any very general interest aroused in the subject Since then the medical journals and even the daily press have been filled with the subject

I am appointed to day to summarize for you, if I can, the results of the serum treatment of diphtheria

The young science bacteriology, has claimed so much, demanded so much of our attention, asked to remake so much of our belief and practice, that when she puts forward a new claim for recognition, a claim that in all the history of curative medicine has no parallel, many hesitate and say "Once I was young, but now I am old, never have I known or seen such things I do not believe"

Let us see This, now, is a question of facts It has ceased to be a question of opinion It is no longer what you or I believe It is, what are the facts?

With over ten thousand cases treated with this remedy—used by careful, critical, often fault-finding men—probably 80 per cent of these cases being reported from hospitals, often the diagnosis made by one man, the treatment given by another, and the report made by still another, the larger part of the diagnosis being confirmed by disinterested bacteriologists, with these conditions, I repeat, it is not a question of opinion whether this remedy is, or is not, a success

Now the question, what are the results? I do not believe it necessary, or appropriate to burden you with the reading of long columns of statistics I may say that my work has been such as to require me to keep watch of these reports I have looked with some care over the reports in the leading medical journals in this country, England, Germany and France It is well within bounds to say that an average of all the reports made, shows a reduction in mortality of over one-half

The comparative estimates treatment with serum and treatment by other means come largely from the hospitals For the most part the death rate with the serum treatment is compared with that immediately preceding its use But it is noteworthy, that in several cases when the serum was not to be had, or from some cause there was an interruption in its use, i e , up to a certain date the ordinary treatment, then serum, then the usual treatment, and then again the serum , in every such case that I have noticed, where the serum treatment was interrupted, the death rate rose to the old figures Virchow reports such an instance, and although his remarks have been widely quoted, I shall repeat them He says "Treatment by diphtheria antitoxin was begun last March in the Kaiser and Kaiserin Friedrichs Hospital In June and July nearly all diphtheria cases were treated with the serum The results were as follows in eight weeks sixty-three cases were treated, with a mortality of less than 13 per cent Suddenly the supply of serum ceased, as, unfortunately, the very horses from which the serum was taken died The old methods of diphtheria treatment had again to be resorted to, and the results were, in the next seven weeks 109 cases treated with 55 deaths, a mortality of over 50 per cent This sad increase in the mortality induced the hospital to return to the serum Immediately there was a change In the next six weeks eighty-four cases were treated with a mortality of less than 15 per cent" The total figures he gives are as follows five hundred and thirty-three cases were treated, 303 with the serum, with a death rate of 13 2 per cent , 230 without serum with a death rate of 47 8 per cent Virchow continued, that in view of the results, he held it to be the duty of every doctor to use the serum "All theoretical considerations," he added, "must give way to the brute force of these figures" Further, he says that even if disagreeable by effects were proved to occur here and there, they were not sufficient to dissuade him from continuing the treatment

Roux reports that in one Paris hospital the mortality for four years was 51 71 per cent In the six months since antitoxin was used, 448 cases gave 24 per cent mortality, and during the same six months, in another hospital in the same city where serum was not used, 60 per cent died

I could, if needed, cite a number of reports fully as favorable as these I wish you to note that these reports effectually answer the statement that has been made, that diphtheria has been a very mild disease the past year, since the advent of serum-therapy, and yet in Virchow's report the mortality with the old treatment was 47 8 per cent In the Trousseau Hospital in Paris, 60 per cent

	Cases	Albuminuria Per cent	Nephritis (Clinical) Per Cent	Nephritis (P M) Per cent	Deaths Per cent
Without serum	903	42 00	25 78	16 81	48 2
With serum	525	40 65	12.57	15 80	15 8

I want to call your attention to the above table This is taken from a very recent report or book of 336 pages on the serum treatment of diphtheria, by Dr Baginsky, Professor of Diseases of Children in the University of Berlin, and Director of the Royal Hospital for Children, in Berlin This is one of the largest and best equipped children's hospitals in the world Baginsky discusses at length the influence of the serum treatment on the complications and sequelæ of diphtheria In his opinion the injection of serum does not increase the frequency of nephritis Cardiac collapse occurred in 10 9 per cent of those treated without serum, and in 5 69 per cent of those treated with it He finds little difference in regard to the frequency of diphtherial paralysis, but such difference as there was is in favor of the serum treatment, the percentages being 6 8 without and 5 14 with the serum

One more set of figures and I am through with statistics Dr Foster, of Washington, in February last tabulated the reports of 7,185 cases, collected from all sources Of these, 4,445 were treated without antitoxin, with a mortality of 45 56 per cent , 2,740 cases were treated with serum, with a mortality of 18 54 per cent Of the cases treated with antitoxin, there was not a single death when the treatment was given in the first day of the disease When it was begun on the second day, the mortality was 2 83 per cent , begun on the third day, the death rate was 9 99 per cent , on the fourth, 20 per cent , on the fifth, 33 33 , after the fifth day 41 38

These figures seem to establish Behring's prediction that the mortality will not exceed 5 per cent if the treatment is begun within forty-eight hours after the attack

It would not be fair to you, gentlemen, if I did not remind you that there have been a few men who have questioned the efficacy of the serum treatment It was in reply to an attack made by his own assistant, who denied the efficacy of the serum, that Virchow made the statement I have already quoted This attitude of Virchow is the more noteworthy, since as you are doubtless aware, he has been for years the severest critic, the most persistent fault finder and "doubting Thomas" that the bacteriologists have had to face But even Virchow was disarmed, and forced to champion the therapy, as he says, "by the brute force of these figures" In this country there have been two adverse reports made in regard to this treatment One of these was by Dr Winters, of New

York He made a sweeping challenge of every claim made for serum-therapy, attacked the statistics and alleged a number of serious after effects due to the antitoxin Dr Winters' opinions were the outcome of his observations in the Willard Parker Hospital At this distance we can only judge of the facts from the statements made This report of Dr Winters was made to the New York Academy of Medicine In the reports of the meeting, it does not appear that Dr Winters had a single supporter, on the other hand Dr Somerset, who had been connected with the hospital for the past sixteen months, virtually contradicted every conclusion drawn by Dr Winters Dr Biggs showed that over and above every question of opinion, was the fact that since the introduction of antitoxin in Willard Parker Hospital, the mortality had decreased over 10 per cent He concluded by saying that, "Dr Winters had shown from the beginning of the antitoxin treatment in the hospital, profound distrust of the method," and then declared that, so far as he knew, there was not a single distinguished clinician, pathologist or bacteriologist in Europe who had not accepted the new treatment of diphtheria as the most important advance in therapeutics in modern times

The other adverse report comes from Assistant-Surgeon Cordeiro, of the United States Navy

If there were need and time for such, for every such adverse report I could show you an hundred, from men of as wide experience and with broader training, the finding being, as stated before, a reduction of at least 50 per cent in the death rate, with no increase in the after-effects of the disease

In judging of these statistics, I want to ask your attention to one point that has not yet received the consideration it deserves In the statistics of the treatment of diphtheria under the old methods, it is to be remembered that in nearly all cases the diagnosis was made from the clinical symptoms, while in the larger part of those reported with serum treatment, the diagnosis has been confirmed by bacteriologic examination, and those cases which did not show the germs of diphtheria were not included in the reports—that is to say, speaking generally—the statistics for serum treatment refer to diphtheria, while those for the older methods refer to diphtheria and those diphtheroid conditions which are so often indistinguishable, clinically, from the true disease That such cases often pass for diphtheria is well shown in the results of the examinations made in the Willard Parker Hospital in New York These cases were first diagnosed by the health officers, they were then sent to the hospital, and the diagnosis confirmed by the physicians in charge, and yet subsesequent bacteriologic examination in these cases showed that from 30 to 50 per cent were not diphtheria, but maladies of non infectious character During the last six months I have made a bacteriologic study of a number of cases that were called diphtheria, a part of these cases were in private practice, a part from Harper Hospital, Detroit In less than half of all the cases examined was I able to find the germs of diphtheria Now, if these diphtheroid cases, cases in which the mortality is much lower than in the true disease, could be excluded from the statistics given for the old methods, as they have very largely been from those given for the serum treatment, we would find a far greater difference in the figures

The after-effects of antitoxin—urticaria and erythema, in the neighborhood of the locality of the injection—are rather frequent Widespread urticaria occasionally occurs Aronson says that these rashes only occur when a new serum is used, that if the serum is kept for some time, none of these effects are to be found These rashes have occurred much oftener when large doses of a weak serum have been used Occasionally neuralgic pains have been noticed, particularly in the legs This may go further, and we have swollen painful joints, and occasionally paralysis

Dr Paquin, of St Louis, who has used the serum of immunized horses for the treatment of tuberculosis, tells me that he has occasionally had these symptoms in some of his patients A New York observer who used the serum from an untreated healthy mule reported symptoms practically as above These symptoms, it seems to me, are justly referred to the serum For the most part the rashes are transitory and, save for the itching, are of no importance The graver ill effects are fortunately rare

A number of workers are endeavoring to isolate the active principle from the serum and it is a reasonable hope that this will soon be accomplished It is to be remembered that antitoxin has no restorative power It is only what the name indicates, a poison neutralizing or destroying agent If this poison has been at work long enough to damage the cells of the kidney, or paralyze the nerves of the leg, antitoxin will not repair them or restore their functions

If we give an experimental animal 1 milligram of antitoxin and then give it ten times the fatal dose of diphtheria poison or toxin, this will more surely protect it from the effects of the poison than if we give it a thousand times as much antitoxin twenty-four hours after giving the poison

In tetanus, the dose of antitoxin necessary to save an animal when given some time after the poison, is more than a million times as large as that which will protect it when given before the poison So in treatment, the clinical evidence goes to show that one drop of the serum given the first day of the disease is of as much value as hundreds of times this amount given on the fifth day

It is not to be forgotten that for the most part antitoxin has been made and used by unskilled hands, and yet see the results

In conclusion, it is possible that these figures and these men are all wrong, but if they are right, curative medicine has never before seen such results

SKIN GRAFT—INCISION TO PREVENT SCARS

BY CARL BECK, M D

CHICAGO

In operations on the face and neck, we are often confronted with the difficult problem, "how to prevent ugly scars" The rules of surgery require extensive incisions, while cosmetic reasons call for the opposite, and even the most exact coaptation will not prevent cicatrices

It is evident that if we found a method which would enable us to make an ample incision, and leave little or no trace of it, this method would be of great advantage

After having studied this question theoretically and by experiments I have, in a few instances, made use of a special method The results, though few as yet, and not conclusive, are so much encouraging that I venture to publish it

The method is simple Contrary to the accepted rule of our technique, the incision is made obliquely to the surface with a razor or a scalpel, one border of the wound forming a broad strip like a Thiersch's graft, then the incision is carried down as deeply as needed In uniting the wound, the graft is exactly spread out and adapted to the surface from which it was taken

Small incisions are sealed without suture with collodium, or treated in the usual way of skin grafting

In large incisions, deep catgut sutures may be employed to close the wound, the graft spread over the same and treated as before stated

Drainage may be used, but this complicates and endangers the healing

The same method may be of value in some cases to remove existing cicatrices

The theoretical consideration, experiments and details will be the subject of a paper in connection with the exhibition of cases

900 Reliance Building

CRANIECTOMY—AN IMPROVED TECHNIQUE

Read at the Meeting of the Tri State Medical Society, held in St Louis April 2 3 and 4 1895

BY A H MEISENBACH, M D

PROFESSOR OF SURGERY IN THE MARION SIMS COLLEGE OF MEDICINE
ST LOUIS

In this paper I do not wish to discuss the rationale of, or the indications for, craniectomy, but wish to limit myself to the description of an operation which differs in its technique from those heretofore described

Craniectomy may be either linear, circular or irregular in form, may be confined to one or both sides of the cranium, and may be anterior or posterior The method of performing craniectomy (one sided linear) employed by most surgeons, is as follows a large scalp flap is cut so as to expose the entire field of operation on the bone beneath it The flap has its base at the base of the skull and extends in a curved line along the sagittal suture, beginning at the hair line of the forehead anteriorly to the coronal suture, and extending posteriorly across the lambdoid suture onto the occipital bone Its upper border runs parallel with the superior longitudinal sinus, and may extend as high on the vault of the cranium as the sagittal suture The flap includes all the tissues of the scalp and the pericranium It is important that the incision be firmly made and carried directly down to the skull, making a smooth, clean incision through the pericranium With a flat periosteal elevator the pericranium is lifted off of the skull and with it the tissues of the scalp In this manner the bone is bared as far as the base of the scalp flap, which is on a level with the tip of the ear

With a small-sized trephine an opening is now made on the frontal bone, anterior to the coronal suture and at a safe distance from the superior longitudinal sinus The trephine opening is the starting point for the next step in the operation, viz, the cutting of a longitudinal strip of bone out of the cranium, three eighths to one half inches wide, including both tables, and extending backward from the trephine opening in the frontal bone, across the parietal and on to the occipital, as near to the lateral sinus as is safe This part of the operation is done with especially devised bone-cutting forceps (Keen's, Lannelongue's, etc), or the chisel [1] The bony parts divided are parts of the frontal, the parietal and part of the occipital bone In skulls in which the tables are soft or not very thick and moderately ossified, the cutting out of this strip of bone by Keen's or other forceps, may be readily accomplished in a moderate space of time, say one-half hour In skulls, however, that are thick and hard, the cutting out of the bony strip is not an easy or rapid task

It is in cases in which the skulls are thick and hard that I have devised the operation which I shall now describe The instruments required are a scalpel, artery forceps, periosteal elevator, double-bladed saw (see cut), a chisel with a beak (see cut), an ordinary chisel three eighths inches wide, a mallet and dural elevators (see cut)

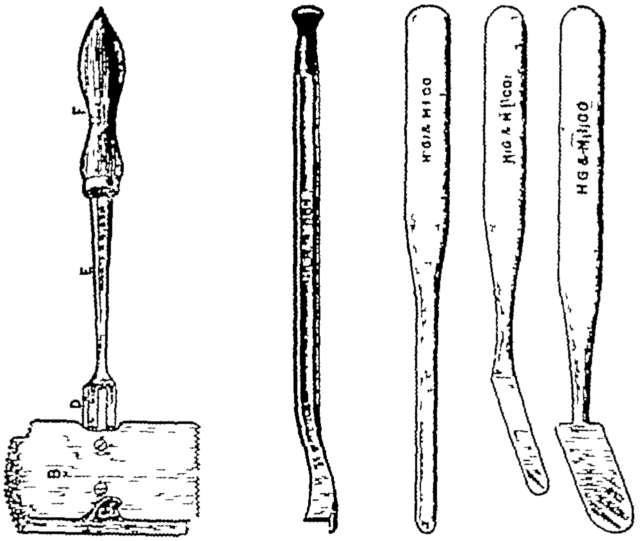

Fig 1 Fig 2. Fig 3

Fig 1 double bladed saw (author's) Fig 2, beaked chisel (author's) Fig 3 dural elevators (author's) [1]

I make the scalp flap as already described When the bone is cleared and the flap retracted, a button of bone is taken out of the frontal bone (or elsewhere, according to the operation to be done) with a small-sized trephine It is in the removal of the bony strip that the improvement in the operation consists Beginning at the trephine opening with the double-bladed saw, I cut a strip of bone the width of the saw (three-eighths to one half inch) as far back as indicated The saw cut is carried through the outer tables, the diploic structure, and onto or into the inner table The outer table is now cut out by means of the ordinary narrow surgical chisel The next step in the operation is to cut out the inner table by means of the beaked chisel, with a dural elevator (see cut) the dura is separated from the inner table, separating it step by step, as piece after piece of the inner table is cut out The beaked chisel is of much service, for, on account of the dull projecting beak, the dura is not injured, as the beak glides over it readily I hardly need mention that with the ordinary chisel this part of the operation is not free from danger to the dura

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[1] There is no doubt but that the quickest way of opening the skull is with a properly constructed electrical or dental engine with properly constructed saws Those devised by Cryer of Philadelphia are the best but they are very expensive and not available outside of large well equipped hospitals

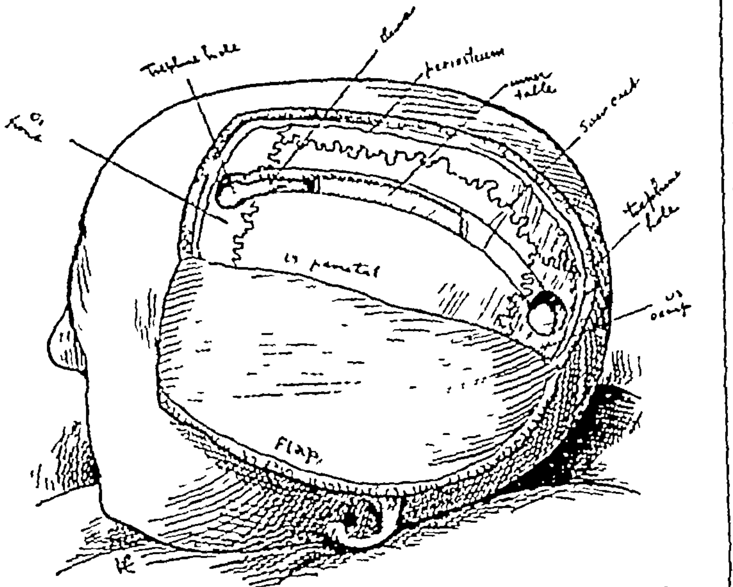
[1] The above instruments were made for me by Holekamp-Moore Instrument Company, St Louis

REMARKS

The double-bladed saw that I use was devised by me some years ago, to cut off plaster-of-Paris casts It cuts a strip three-eighths of an inch wide It very much facilitates the operation of craniectomy, as described

I have found the beaked chisel (my own device) very useful in operations on the skull, especially where the inner table is to be cut through On account of the blunt beak the dura is not liable to be injured I have found it very useful also, in cases of depressed fractures where it was necessary to smooth off the sharp projecting edges of the inner table The chisel is about eight 'to ten inches long and made of three eighths to one-half inch octagonal steel, the blunt beak projects one-eighth to one-quarter of an inch beyond the perpendicular edge The cutting edge is at right angles to the shaft of the chisel, and is one-half to three-quarters of an inch long The chisel has a curve so that the contour of the cranium can be easily followed

I am well aware that many surgeons deprecate the use of the chisel in operations on the cranium, for fear of the resulting concussion of the brain This seems to me to depend, in a measure, on the skill of the operator, and also on the character of the chisel used It is a noticeable fact that most chisels made by instrument makers are improper tools, being too short and also too light for proper manipulation In my estimation, the best chisel for surgical purposes generally is the carpenter's or joiner's socket-framing or firming chisel, into the socket of which a metal knob has been fitted to receive the mallet blows It seems to me that with a chisel of this form (or any other long heavy chisel) the concussion of the brain is much less than where a short light chisel is used Surgery is mechanical in part, and the surgeon can learn many important technical lessons from the skilled craftsman in the workshop A skilled sculptor or mechanic would not think of using a tool so short that he would continually run the risk of pounding his fingers, for, certainly, the fear of hitting the fingers would detract materially from the delicacy in execution of the work to be done How often do we see improper instruments used in surgery, and, if bad results follow, the blame laid to other causes than to the execution of the operation? The old saw is true, "a good mechanic needs but few tools," and I would add that they must be of "proper construction and properly used"



The above cut shows the skull exposed flap of scalp turned down and the different stages of the operation on the cranium

I should be loth to present for your consideration a procedure that I had not tested, both on the cadaver and on the living On the cadaver, I have cut out the bone, as described, within *twelve to fifteen* minutes

Within the last year I had the opportunity to execute the operation on two cases[2] The first, a modified lineal craniectomy in a child 7 years old, for ossification of the cranium and defective development of the brain, the second, a metastatic tumor of the cranium (carcinoma), in a woman, age 56, in which I removed the tumor with the same instruments, double-bladed saw, trephine and beaked chisel In this case the bone (and tumor) excised was rectangular, measuring about two inches square In both cases there were no untoward symptoms, as far as the operation was concerned, viz, concussion from the use of the chisel I refrain from reporting these cases *in extenso* at this time, as I shall incorporate them in a future paper

2220 South Broadway

SOCIETY PROCEEDINGS

The Ohio State Medical Society

Annual Meeting held at Columbus, May 15, 16 and 17, 1895

(*Concluded from page 328*)

DR W J MEANS, of Columbus, Ohio, presented a paper on

INFLAMMATORY DISEASES OF THE CERVICAL LYMPHATIC GLANDS

After outlining the topographical anatomy of the neck, and calling attention to the important and intimate relations of the various structures, Dr Means continued

The inflammatory diseases of the cervical lymphatic glands in their general features are so well understood that I will not devote much space to a description Since the management of the different forms is in many instances so radically different, I am compelled however, to give a classification and a short clinical history of each

The most practical grand divisions are simple and specific The simple variety is met with in children perhaps oftener than most any other disease In severity, simple adenitis exists from the evanescent swelling of the glands that passes off in a few days, to that of suppuration or chronic enlargement that continues for weeks, causes the patient much trouble and is liable to become specific from secondary infection The etiologic factors are numerous Inflammatory processes about the mouth, face, head and ears, such as ulceration of a tooth, stomatitis, tonsillitis or any of the diseases of mucous membranes, eczema of the face or scalp, dermatitis, otitis media, pediculosis capitas and other diseases too numerous to mention are frequent causes The eruption of the teeth, exposure to cold and sprains are all common causes in producing swelling of the cervical glands

The pathologic changes that take place are first found in the cortex of the gland It becomes more vascular, soft and swollen, the reticulum loses its distinctiveness, the lymph passages become packed with lymph The capillaries become enlarged and the gland becomes a deep purple in color The termination may be by resolution, chronic enlargement or suppuration Owing to the inherent power of the glands to throw off foreign bodies and to resist the attacks of invading microbes, a large proportion of them undergo resolution and disappear When the inflammation becomes chronic there is a failure to absorb the exudates and they become organized This thickens the capsule and it becomes hard and adherent to the surrounding tissues In some cases the lymphatic vessels are compressed and there follows dilatation of them and edema of the parts If the termination is by suppuration, the gland itself will be the seat of necrosis, or the tissues surrounding it If the latter, the gland is often found partially intact in the abscess

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[2] Since the writing of this paper I have performed two additional craniectomies after the method herein described In both cases the results were perfect, as far as the operation is concerned No shock, union per primam intentionem

There is always danger of a simple adenitis becoming tubercular A healthy gland has a resisting power to the growth of tubercle bacilli, but when diseased it very readily becomes a nidus for their cultivation I do not believe the profession is fully alive to the danger of this source of tubercular infection Enlarged glands are so frequent and terminate favorably in so many cases that the physician becomes indifferent to the gravity of them

Under the specific inflammatory enlargements we have tubercular syphilitic and glanderous and a few others It is now a well established fact that the lymphatic glands all over the body are frequently affected by tuberculosis The cervical glands are especially prone to be affected, probably owing to the numerous sources of infection about the mouth, face and head It is claimed that 95 per cent of all the cases of tubercular adenitis occur in the cervical lymphatic glands The source of infection is much the same as in the simple variety There is some abrasion or disintegration of the skin or mucous membrane through which the bacilli gain entrance to the lymphatic vessels and are carried to the gland The bacillus tuberculosis is non-motile, so this is the only explanation we can give of its entrance and progress Another clinical fact goes to prove this, in that when a gland becomes infected, belonging to the superficial set, others in the same chain become affected It is so with the deep set This is the most conclusive evidence that the bacilli are carried by the lymph current In the active stage of the inflammatory process the lymph vessels are sometimes occluded and thus prevent the extension of tubercular infection for the time being There are some exceptions to this rule of invasion in the direction of the lymph current These exceptions may be accounted for by the wandering leucocytes, to which the bacilli may become attached

We may note another clinical feature that bears upon the above theory, that as long as the bacilli are confined to the lymphatic glands there is no danger of general infection, but when they pass these filters and the germ gets into the general circulation there follows general tuberculosis, generally pulmonary For an extended description of the pathologic anatomy I will refer the reader to the works on that subject Suffice it to say that cell necrosis is followed by caseation, and the bacilli within these nodules die or become inert and remain frequently for months or years without any signs of activity During this time the gland is not tender and remains quiescent and gives the patient no particular trouble The cheesy material may dry and become inclosed in the capsule or connective tissue and remain in calcification, or it may undergo liquifaction

Secondary infection may take place from pus microbes when an acute inflammatory process will set up, involving the surrounding tissues, followed by suppuration When a group of glands are diseased the first infected may have undergone the degenerative process above mentioned while the last ones are simply pinkish and only show the primary stage of the disease I recently removed eighteen axillary glands from a patient where they ranged in size from a walnut to that of a small almond They were knotted together by connective tissue and the larger ones had undergone the cheesy degeneration Liquefaction had not taken place in any of them Several of them had a few foci of necrotic degeneration, and the smaller ones did not present any changes further than the hyperemic enlargement

In simple adenitis there is difficulty oftentimes to differentiate the true condition Suppurative adenitis is an acute inflammatory process that terminates in a few days in pus Adenitis developing from a sore about the lips, that has the characteristic of a sore, can be easily differentiated from the simple or tubercular varieties

In tertiary syphilis, the whole glandular system, especially the superficial set, is affected The affected glands are painless indurated and loose in the tissues Carcinoma never occurs as a primary affection of the lymphatic glands When enlargement of glands occurs close to a suspicious tumor, there is not much doubt as to its character Lymphoma always affects but one and the cause is benign

Lympho sarcoma gives rise to regional and general infections In this respect it is like tubercular adenitis but it is not inflammatory and therefore does not produce degeneration of the tissues A prognosis of inflammation of the cervical glands depends largely upon the variety and the management If left to themselves or treated in an improper manner, they become a frequent cause of death Simple adenitis *per se*, is not dangerous, but when we consider the danger of secondary infection from tuberculosis, it becomes a grave disease Local tuberculosis is a constant menace to the life of the patient, and therefore the gravity of tubercular adenitis in the cervical glands especially should be recognized General infection may not occur, but the disease remains there with the wand of death, ready to beckon its victim

The treatment of cervical adenitis after a careful diagnosis has been made is important In the simple variety much can be done to avoid suppuration and secondary infection One of the cardinal principles in treating adenitis, of whatever kind, is to remove the cause or source of the trouble When called to see a patient with enlarged cervical glands, it is the imperative duty on the part of the physician to carefully examine the mouth, throat, nose, ears and scalp to find the cause of the trouble, and if found, it should be removed Rest and the application of cold to the swollen glands is about the only treatment necessary following the removal of the cause I wish here to protest against the almost universal custom of applying local irritants over swollen glands I also protest against the indiscriminate use of fomentations The ancient theory that iodin applied externally causes absorption of exudates or will reduce enlarged glands, seems to be prevalent among physicians of the present day The external use of tincture of iodin is unsightly, painful, and may be injurious Local irritants stimulate the peri cellular tissues to a vascular hyperemia and thus may convert a quiescent enlarged gland into an acute inflammatory section and possible suppuration

Another source of danger may arise from abrasion of the skin so that microbes may find their way into the lymph currents and diseased gland These restrictions on the use of irritants apply both to the simple and specific varieties When suppuration has taken place, fomentations may take the place of the cold applications As soon as fluctuation can be detected, a free incision should be made into the pus cavity The patient should be anesthetized, and then the abscess can be opened carefully and thoroughly cleaned out By " cleaning out" I mean curetting and washing with antiseptic solution and then packing with iodoform gauze If this plan can be followed there will be a speedy recovery with the least possible drain upon the system and resulting scar Constitutional treatment is necessary to support the system I depend upon the lime salts, arsenic and iron If the suppuration is found to be in the peri-glandular tissues and the gland not fully broken down, which is often the case, it should be removed and the cavity treated in the above manner The treatment of the tubercular variety is one of the most interesting and important subjects pertaining to the management of the lymphatic glands The treatment very naturally resolves itself into two forms—constitutional and local or surgical Under the constitutional treatment there lurks much danger to the patient The old idea of the effect of the alterative treatment in scrofula is still abroad in the profession No one knows what it means, but through ignorance of the action of drugs and the pathology of tubercular adenitis, the physician goes on prescribing nauseating medicines, hoping thereby to cure these local swellings, but his patient goes on toward the grave, or a return to health, after months or years of running sores and resulting hideous scars The true purpose of constitutional treatment is, or should be, to build up the system This can best be accomplished with cod-liver oil (pure) (emulsions should be discarded), arsenic, iron, nutritious diet and proper hygienic surroundings

The curative treatment is surgical and should be resorted to at the earliest possible time On general principles there are no good reasons for delay Early extirpation of tubercular glands affords as great immunity from subsequent infection as it does in carcinoma In the face of modern statistics, no one would advise delay in removing a malignant tumor before the surrounding tissues and glands become infected So it is with tubercular lymphatic glands, if left alone, additional glands become infected, there is constant danger of general infection and there will be more or less peri cellulitis, thus complicating operative interference, and other complications will arise that will make what primarily would have been a simple surgical operation, one of the most formidable known to surgery, thus jeopardizing the life of the patient

The surgeon must be thoroughly familiar with the topographical arrangement of the tissues and organs of the neck before he ventures to operate and he must be prepared to meet emergencies of the gravest character Exercising all the skill and care possible, he will meet with difficulties that will require mature judgment to overcome I have found it necessary to ligate the jugular vein in two cases, and the

MEDICAL SUPERINTENDENTS FOR PUBLIC INSTITUTIONS

A daily Chicago paper, editorially commenting upon a proposed reform of the medical institutions of the county, gives utterance to the following "The medical profession ought to be debarred from the business management of every public institution and every public department, but it should be made supreme in the medical portion of each public institution and every public department requiring its cooperation "

The first part of this quotation is the expression of a delusion that has apparently a strong hold of the professional politician, whose business capacities are not to judge by the usual results of his administration of public affairs, the most brilliant, and the second part is theoretically and practically an absolute negation of the first

How is the medical profession to be debarred from all part in the business management of an institution or department and yet be made supreme in the medical portion of every department requiring its cooperation? Experience has not demonstrated the success of divided authority in medical establishments and hospitals, and their exclusive lay management has everywhere and at all times made a record of maladministration and abuse Medical supremacy, it must be understood, implies necessarily more than the mere doling out of drugs, and the nursing and medical care of the patients, it includes the general sanitation, the inspection of supplies, the direction of construction and repairs, the regulation of the lighting, heating, and water supply, and a host of other details that can not be safely intrusted to any one not fully acquainted with, and fully in accord with, the direct and ultimate objects of the institution It would be as correct to say that the paymaster of a man-of-war should be supreme over the captain and the admiral, as to claim preeminence for a "business" man without professional qualifications in a hospital, or, more especially, an asylum As long as the administrative department is in full accord with the medical, and recognizes its right to dictate on all matters even remotely pertaining to the proper functions of the establishment, there may be no gross mismanagement, but human nature seldom furnishes all the requirements for this state of affairs, and it is easy to see how, without this, lay supremacy in purely medical institutions can only lead to mismanagement and abuses

This is the plain, common sense view in the case, and it ought to require no illustrations of its truth to the average citizen who gives it any consideration whatever If illustrations are wanted, however, they can be had in abundance, and opposing facts are absolutely wanting Every medical establishment in the world that is worthy of being cited as a model is such, only so far as it is under absolute medical authority In successful general hospitals the word of the clinical staff is law to the administration, and the only asylums in the country that are worthy of the name, or that are not a reproach to the communities that support them, are under exclusive medical control

Even the most sacred obligations of religion are no security against abuses, as was shown in the recent *exposé* of the Mariaburg Asylum in Prussia, which, it is to be hoped, will have some effect in counteracting the agitation that is being made in Germany in favor of placing asylums under lay (clerical) control Ecclesiastics and business men are alike unfitted to have chief charge of institutions for the care of the invalid and the insane, the medical authority should be supreme Any other arrangement is abnormal, and while it may be accepted for want of a better one, and while in some rare instances, by reason of the good judgment of the layman in charge and his practical recognition of the superior authority of the physician in all matters of medical importance, it may possibly not work actual disaster, this must be taken only as a happy accident which experience shows to be of rare occurrence

The State of Illinois tried for years in its medical charities the system of a divided responsibility, but was forced to abandon it, and the reasons why the chief control of such institutions should be medical are logically stated in the following quotation from a special report of the State Board of Charities on one of the Cook County institutions in 1886

"The reason why a medical man should be at the head of this hospital, rather than a business man, is that, in a medical institution every question to be decided has a medical bearing, which a non-medical man may not perceive, and the final word on every subject should be spoken by the physician from which there should be no appeal "

The fiction that physicians are not good business men has certainly no such excuse as could be afforded by the experience of Cook County with lay heads of its medical institutions

Another point is, that the alleged "business" men are seldom anything more than mere politicians who have failed in every private business, and many times have failed even in politics to command a sufficient following to cause their return to elective positions

OMPHALOPSYCHISM, OR FAITH HEALING, MODERN AND ANCIENT

The *Lancet* is interested in some mild cases of mind cure that has obtained a tentative foothold on the shores of Albion We quote below a portion of a well-written annotation, in the issue of that journal for August 10, in the course of which the editorial writer demands that a law be passed, in England, which will prevent the experiments of faith healers being tried upon the persons of helpless children This is a practical view that may properly be taken, even in this land of free and-easy habits of thought, in the handling of quackery and superstitions The American mind tolerates too easily the various phases of crankism, and no doubt lives are lost in that manner, especially in the cases of children and other feeble dependents The *Lancet* says "An inquest was recently held upon the body of a girl aged 17, who died in Brixton of acute tuberculosis and peritonitis from a perforating gastric ulcer, having been very ill since last Easter She had no medical advice because, according to the evidence of the woman in whose house she stayed, 'she trusted in the Lord to heal her without medical aid' It is useless to point out to people of this cast of mind the falsity of their theological reasoning, but we do think that the Legislature, which takes care to prevent people jumping off the monument or going on ice too thin to bear their weight, might step in and prevent peculiar people and faith-healers from murdering their children by neglect We should be the last to deny the power of faith, but, as a recognized authority says, 'faith without works is dead,' and it is a canon of theology that the Almighty works by means, and those means humanity is bound to use The *New Science Review* for July contains an article entitled 'Has Mental Healing any Scientific Basis?' The teaching of this article appears to be that there is a broad field for 'auto-suggestion and systematic concentration with happy results' The way and means to become properly auto-suggestive is as follows You say mentally to yourself—even mechanically at first—until the habit is formed, 'I [the real ego] am well I am strong I am pure I am perfect I am one with the Divine Spirit of Wholeness' The next step is, 'To insure progress, special times and seasons should be set apart for the focalized thought and affirmation At times when the objective world, with all its cares and anxieties, may conveniently be barred out, the full glare of the consciousness is turned upon the Divine ideal within, which thereby gradually becomes graphic and ruling' It is evidently quite easy to become a mental healer, but we seem to remember that this process is not new There was once a sect in the Eastern Church called the Omphalopsuchoi, who by steadily gazing at their navels were at length rewarded by a sight of the light (created or uncreated) which shone at the Transfiguration This method, we suppose, is what Mr Henry Wood, the writer of the article in question, calls 'keeping company with his inner ideal' However, he does not seem to have much faith in the process he recommends, for he concludes 'As related to illness, prevention is the end to be sought, so that in time cures may be unnecessary' If any one by 'keeping company with his inner ideal' can cure a gastric ulcer he would be a most valuable addition to our present therapeutic agents"

THE BENEFICENT MICROBE

In his presidential address before the British Medical Association, Dr **Russell Reynolds** calls attention to the "gradually increasing appreciation of the fact" that the lower forms of life that we include under the general head of microbes, and to which it is the popular fashion nowadays to refer all manner of disease, are not altogether mischievous in the influences they exert on the human economy, but are, on the contrary, often beneficial Though this is no new medical view, its statement under such circumstances by so high an authority at this time has a certain significance It is a recognition of a truth that is becoming more and more evident, that we only know as yet a small part of the beneficent functions of these bodies, and that even the maleficent ones may have their uses to mankind Dr **Reynolds** goes at some length into the subject of immunization as indicating this utility and alludes to the long-known facts that bacteria are useful and probably essential in many of the healthy processes taking place in the human body It has been taken for granted as a fact in physiology that they have their part in digestion, and it seems to be established that they are under certain conditions essential in the life of some higher vegetable types, and in other instances, as in the case of the normal vaginal bacillus, they seem to exercise a directly protective influence These facts are known to medical men, but in these days of popular "microbe killers," and with the general tendency of the public to absorb a little medical knowledge to its own hurt, a little reiteration and consideration of them may not be altogether a bad thing

Even the pathogenic bacteria may have their uses in causing a constant and general immunizing process in human populations Probably, with less frequency of these occurrences and a less general distribution they would be far more virulent when they did attack the system—the fatality of measles and other comparatively harmless infections of civilization among savages, the extra virulence of new epidemics and the occasionally observed proportional mildness of the same disease after it has become common, quite apart from the selective process that might be assumed were the disorders always self-protective or fatal, all point in this direction While, therefore, there are many of these organisms which mankind could well dispense with, were that possible in any absolute sense, it may be that we are gradually getting better off as regards their influence by their very frequency Pathologic familiarity may breed a physiologic contempt prove one of the most calamitous Japan has witnessed for many years past To begin with, cholera broke out in the country early in the year, slowly but steadily working its way even to the remote corners of the Empire Though stringent precautionary measures are taken by the authorities, and the exceptionally cool weather has been prevailing, and the malady has so far been prevented from general spread in a city like Tokyo, we are still in the middle of summer, and the worst may yet be brought about In Osaka, Hiroshima, and other western cities, the disease shows no signs of abatement The official report to hand puts the total fatalities from cholera up to the 28th, noon, at 6,592 This is by no means a small figure, though it is small compared with that in 1883 and the year following"

Tubercle Bacilli in Butter.—Roth of Geneva, after demonstrating the frequency of the bacillus of tuberculosis in milk, relates [1] his experiments with cooking such infected milk—from which it appears that a simple ebullition destroys the virulence of milk drawn from cows with sore udders and shown to be very infectious by inoculations on other animals So far as butter is concerned, cooking changes its taste too much to be used as a means of prevention Nevertheless, as Rang had already demonstrated, Roth proves that the cream and butter of milk from cows with tuberculous udders will infect guinea pigs, with some samples of butter sold in the market he infected two out of twenty and Broferro has infected one in nine Unfortunately there is no method of promptly recognizing the bacillus in butter Cream may be sterilized by successive boilings, but butter so treated has a somewhat strong taste which, however, disappears after keeping for some time Butter which is very carefully and thoroughly washed is less liable to be infected and, moreover, it keeps better and for a longer time Infected milk may also be sterilized by cooking and the butter made from it will be good, though the quantity will be smaller The most effectual means of preventing the tubercle bacilli in butter is an early diagnosis of infected cattle and their prompt destruction

Disinfection of the Rooms of Tuberculous Patients —At a recent séance of the Paris Academy of Medicine,[2] M Landouzy presented the results of some important experimental researches into the infectiousness of the dust of rooms of tuberculous patients after disinfection, undertaken by Dr Lalesque, of Arcachon, and M Rivière, of the Bordeaux Faculty of Medicine The conclusions of the authors, which confirm those of Cornet and Kirchner, are founded on results obtained by inoculating 70 guinea pigs in the cellular tissue of the thigh with dust taken from rooms inhabited by consumptives with purulent expectoration and after the rooms had been disinfected The disinfection consisted in placing all hangings, carpets, etc , in a Geneste Herscher stove, wiping walls and furniture repeatedly with cloths soaked in 1 to 1000 sublimate solution, washing the woodwork with boiling water and then with sublimate solution The dust for the inoculations was collected from places cleaned with difficulty, such as tables, around the bed and chimney, in corners, cracks in the floor, joints between hearth-tiles, etc Of the 70 animals inoculated, 57 lived and 13 succumbed to septicemia or tetanus within a few days When the 57 were killed in from 40 to 45 days, none of the organs showed a trace of any tuberculous lesions whatsoever MM Lalesque and Rivière conclude from their experiments, which were made on a much larger scale than those of Cornet and Kirchner, that the measures for cleansing and disinfection, as practiced at Arcachon in localities occupied by tuberculous patients, are perfectly efficacious and suffice to prevent contagion of tuberculosis from the air of such disinfected localities

Medical Climatology of Chili —Chili which is one of the most thickly populated countries of South America for its size—751,216 sq kilom —has the shape of a long, narrow strip, 3,000 miles long, washed by the Pacific and bounded by the Argentine Republic, Peru and Bolivia On the east are very high peaks, among them Aconcaqua, with numerous spurs, on the west the Coast Range Between these mountain chains is the central valley A great part of the country is rainless and arid, especially in the north The guano industry is highly developed here In other regions, rains are abundant and heavy and agriculture is successful The climate, on the whole, may be said to be agreeable and the mean temperature varies between 10 and 18 degrees C The temperature record of the four principal cities is as follows

	Santiago	Copiapo	Talca	Puerto Montt
Winter	7 80°	18 0°	7 88°	8 44°
Spring	13 06°	17 78°	14 42°	11 72°
Summer	18 47°	22 60°	——	11 43°
Autumn	12 65°	17 16°	14 01°	11 95°

The population, including 50,000 nomad Indians in the south, is estimated at 2,958,418, of which 42 per cent is urban The annual increment is about 45,000 The annual mortality shows the following oscillations 1849–1875, 26 3 deaths per 1,000, or 1 for each 1,000 inhabitants, 1876–1885, 21.7 deaths per 1,000, or 1 for each 40 inhabitants, 1886–1889 30 8 deaths per 1,000, or 1 for each 34 inhabitants The Chilian hygienists attribute this large mortality to a number of causes—absence of good drinking water, want of proper means of disposing of the filth, which impregnates the soil, the action of the marshes, which are produced by the inundations of the Biobio, the damp, cold atmosphere, the dampness of the houses, which are built in earth, etc It is interesting to note that some departments which are close to the Biobio River have a high mortality—Talcahuano, 1 in 23—while others at a distance from that stream are among the healthiest in the country—Coelemu, 1 in 63 The morbidity is chiefly caused by tuberculosis, variola—in 1892 the deaths from variola were 6,012; while tuberculosis represents 25 per cent of the general mortality—scarlatina, syphilis, erysipelas, influenza, enteric fever, cardiac lesions, alcoholism, and the *tepidias* of summer, cholerine Goitre is observed among the inhabitants of the Coast Range at the sources of the streams, but it is not frequent Among endemic diseases may be mentioned measles, dysentery and hepatic disorders Santiago, the capital, 1,755 feet above the level of the sea, has a population of about 240,000 The climate is said to be one of the most agreeable in the world and its skies the most beautiful The system of sewers is still incomplete and leaves much to be desired from a hygienic standpoint The inhabitants of the province of Santiago suffer from intense variations of electric tension The electrometer in the same day changes many times, passing from positive to negative, which is exceedingly rare in any climate so far known Immigration to Chili is small According to a late census, there are 5,625 foreigners in the province of Santiago, 5,000 of whom live in the city Valparaiso, with a population of 130,000, is the most important seaport Part of the town is built on a long strip of land between the Coast Range and the sea, and another part climbs up between the mountains, which gives the town a very singular appearance, especially at night The hygiene is bad, by reason of a considerable part of the population being crowded together along the shore, with the consequent pollution of the soil due to want of means for disposing of the filth and also by reason of insufficient drinking water Alcoholism is the curse of the town In 1894 the police arrested 23,000 persons for drunkenness [1]

Health Reports —The following health reports have been received in the office of the Supervising Surgeon-General Marine-Hospital Service

SMALLPOX—*UNITED STATES*

Arizona Arivaca, August 15, 5 cases, Nogales, August 15, 2 cases

Illinois Chicago, July 1 to 31, 3 deaths

Louisiana New Orleans, August 10 to 17 8 cases, 1 death.

Tennessee Cow Island, July 15 to August 14, 16 cases, Memphis, July 15 to August 14, 8 cases

Texas Eagle Pass, August 21 to 23, 8 cases, 5 deaths

SMALLPOX—FOREIGN

Dublin August 3 to 10, 5 cases

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[1] Les Nouveaux Remedes, July 24, 1895

[2] Bulletin Acad de Med July 23, 1895

[1] Jour d' Hygiene, July 25, 1895

Buda Pesth July 29 to August 5, 1 case
Calcutta July 6 to 13, 4 deaths
Glasgow August 3 to 10, 3 cases
Guayaquil July 26 to August 7, 3 deaths
London August 3 to 10, 3 deaths
Madrid July 28 to August 5, 5 deaths
Montevideo July 13 to 20, 2 cases
Rio de Janeiro June 22 to 29, 25 deaths
St Petersburg July 27 to August 3, 1 case
Warsaw July 27 to August 3, 1 death

CHOLERA—FOREIGN

India Calcutta, July 6 to 13, 29 deaths

Japan Nagasaki, July 16 to 23, 19 cases 15 deaths, Yokohama, July 12 to 26, 13 cases, 11 deaths

YELLOW FEVER—FOREIGN

Cuba Havana, August 8 to 15, 75 cases, 27 deaths, Santiago, August 10 to 17, 34 deaths
Brazil Rio de Janeiro, June 22 to 29, 21 deaths
Mexico Vera Cruz, August 8 to 15, 9 deaths

NECROLOGY

George Keating Dyas, M D, of Chicago, August 24 He had been afflicted with tuberculosis since last March and during the last two months was confined to his home Dr Dyas, was a son of the late Dr William Godfrey Dyas, who was killed by a railroad accident at Park Manor last February, and was 59 years old He was born at Rathangan, County Kildare, Ireland At the age of 17 he came to this country At the breaking out of the civil war he entered the Southern army as a private and rose to the rank of lieutenant Soon after the close of the war he studied medicine at the Chicago Medical College and was admitted to his profession in this city

MISCELLANY

Quintuple Birth in the Dominion.—The Associated Press has received a dispatch from Charlotte, P E I, which says Mrs Alexander Campbell, of Montague, gave birth to five daughters on July 28 Her husband is a tailor and is in his eighty-fourth year

To Abort Erysipelas—Bar-iodo potassic-arsenite—A medical student in the University of the South, Mr W E DeLong, sends the Journal a letter in which he says that by the hypodermatic use of this agent, he is able to abort erysipelas, by destroying the streptococcus The same result is claimed by him, when the medicine is administered internally

Burial of a "Weighty" Man—A butcher named Brissollier, who died recently at Mondeville, near Caen, in Normandy, had reached the extraordinary weight of 251 kilograms It was necessary to use great precautions in order to prevent accident with the bier, which weighed about 300 kilos The coffin was 2 meters long, 1 m 05 high and 85 centimeters wide, and had to be lowered into the grave by the aid of very strong pulleys All the persons at the funeral were heavily impressed, says our exchange [1]

Change in the Wisconsin Pharmacy Law—The Wisconsin pharmacy law was almost entirely rewritten, and considerably changed, in a statute passed by the Legislature at its session, relating to the practice of pharmacy, the licensing of persons to carry on such practice, and the sale of poisons in the State, the changes made showing an intention to improve the State law on these subjects and make same more efficient in many respects

Liability of Volunteer in Providing Surgical Services—Where one, as a volunteer, undertakes to provide necessary surgical services for another, he can not be held liable in damages for the negligence or malpractice of such surgeon as he summons, the Supreme Court of Nebraska holds (Chicago, B & Q R Co, v Howard, decided June 21, 1895,) provided such surgeon possesses the knowledge and skill ordinarily possessed by other surgeons, and the employer had no reason to suspect that such surgeon would neglect or fail to use his knowledge and skill to the advantage of his patient

How Doctors' Fees are Collected in France—Dr C had attended a "young person" who was recommended to him by a Mr D Failing to receive his fee from either the "young person" or Mr D, he wrote to the wife of the latter, stating the circumstance and advising that she see the bill paid to avoid scandal Receiving no reply, Dr C sued for the amount of his bill, 420 francs, and Mr D sued the Doctor for 5 000 francs for betraying a professional secret The court decided that the Doctor was entitled to 300 francs instead of 420, and decreed that it be paid by Mr D On the other hand, the judge ordered the Doctor to pay 300 francs to Mr D for violation of professional secrecy and grave inattention to his duties as a physician The costs were divided equally [1]

Large Bequests to Massachusetts Institutions—Under the will of the late Thomas O H P Burnham, who was for many years a dealer in second hand books, nearly two-thirds of an estate of $602,562 will go to charitable and educational organizations The Massachusetts General Hospital was made the residuary legatee, and has been paid $263,048 The Home for Aged Men, and Tuft's College will receive $10,000 each, Children's Home, Children's Hospital, Boston Asylum and Farm School, Washington Home, Massachusetts School for Feeble Minded Children, Perkins' Institute for the Blind and Boston Lying-in Hospital, $5,000, each, Boston Dispensary, Asylum for Aged Females, New England Hospital for Women and Children and Consumptives' Home, $2,000

Castration as a Sectarian Rite—The *Lancet* has recently referred to a book, by a French writer, regarding a sect in Russia, known as "The Skoptzies" The *Lancet* paragraph states that "there is a very singular religious sect in Russia, whose chief tenet consists in castration These ridiculous fanatics are said to be convinced that mankind can only obtain admission to Paradise in a mutilated condition, and consequently all males who join their ranks must submit to be deprived of their testicles, but whether the females have to undergo spaying or any analogous operation is not clear According to M E Teinturier, who has written a book entitled 'Les Skoptzy,' these blind enthusiasts are tolerably numerous, but, happily, there is one good point connected with their particular form of madness—it can not be transmitted hereditarily"

Confidential Communications—Confidential communications in the Iowa Code, which provides that no practicing physician shall be allowed in giving testimony to disclose any confidential communication properly intrusted to him in his professional capacity, and necessary and proper to enable him to discharge the functions of his office according to the usual course of practice, the Supreme Court of Iowa, holds, in the case of Prader v National Masonic Accident Association, decided May 28, 1895, covers, not merely verbal communications, but the prohibition of the statute refers to those of any kind by which information of the character of that specified in a statute is imparted Information of the actual condition of the patient, the court says, may be more readily communicated to or acquired by a physician through a personal examination than by statements of the patient In many cases, exact knowledge can only be obtained by means of such examination, and it is clear that it is in the interest of the patient to have the information so obtained treated as confidential, as it would be had he known and communicated it verbally Consequently, it is concluded that the prohibition of such a statute as the above extends to facts which are learned by a physician in the discharge of his duties, from his own observation and examination of the patient If the facts thus learned are of a confidential character, and are necessary and proper to enable the physician to discharge his professional duty to his client they are protected

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[1] Le Progres Medical 1895 No 29

[1] Gaz. Med. de Paris 1895, No 29

Term of Office for Kansas Insane Asylums.—Under section 3, chapter 113 of Kansas Session Laws for 1879, (paragraph 6188, General Statutes of 1889), which provides that "each insane asylum shall have a superintendent, an assistant superintendent, steward and matron, who shall be chosen by the board of trustees, and shall hold their office for the term of *three years*," no vacant unexpired or fractional terms are recognized, says the Supreme Court of that State, *in the case* of State v Wentworth, decided June 8, 1895, and such officers, whenever appointed, are entitled to hold their respective offices for the period of three years *from the date* that the appointment of each takes effect

Annual Report of the New York City Hospital—This year's report of the above named institution is an elaborately illustrated book Interior and exterior views of the hospital and its annexes are given, to the number of about twenty that will excite the envy of many a younger, struggling board of managers The total number of patients receiving care and treatment in all departments of the service, for the year 1894 was 39,012, and the grand total since the beginning of hospital work, Jan 3, 1891, 656,017 The proportion of patients in the wards of the several institutions receiving absolutely free treatment during 1894 was 64 per cent, and a large proportion of the remainder paid less than the actual cost of treatment At the New York Hospital in West Fifteenth Street, the number of patients receiving medical or surgical treatment *in* its wards was 4,878, and the highest census of the hospital was 201, and the lowest 151 the average number of patients being 174 The average number of days of treatment per patient was 13, and the per capita cost was $1 88 plus Of the total days of treatment of ward patients, namely, 68,183, 84 per cent were absolutely free In the Out-Patient Department connected with the hospital, 8,700 patients were treated in its several classes, and the total number of visits of such patients amounted for the year to 40,792, and the number of prescriptions compounded, 35,957 The Ambulance Department at the New York Hospital responded to 1,441 calls, and at the House of Relief to 2,812 calls, the daily average ambulance calls at the New York Hospital numbering 4, and at the House of Relief, 7

To Prevent Life Loss from Fires on Shipboard—The veteran chemist, Dr R Ogden Doremus, of New York city, has recently published a plea for the more general furnishing of liquified carbonic acid by ship owners as a life-saving and property-saving expedient, especially on all passenger steamships Liquified carbonic acid has been quoted abroad as low as 12½ cents per two and one half pounds, in iron bottles The published remarks of Professor Doremus contain the following statements favorable to a wider employment of this substance "About thirty years ago, the United States government appointed a commission to examine and report on methods for saving life on shipboard I repeatedly exhibited to this commission the efficacy of liquid carbonic acid in extinguishing fires, and suggested that wrought-iron cylinders filled with this liquid should be placed on the decks of vessels and connected with iron tubes passing by the sides of the stanchions into various compartments Should spontaneous combustion of cotton, jute, coal, etc, occur, the fire would be *instantly* extinguished by releasing the gas and driving it by its *enormous* pressure into the hold or compartment of the ship where the fire exists The commission reported unanimously *in favor* of this method, and advised *the* passage of a law by the United States government requiring all our vessels to be provided with such means for extinguishing fires and saving life Similar experiments were also *shown* to a committee appointed by the New York Board of Marine Underwriters The committee commended this *mode of putting out fires* in the highest terms With carbonic acid gas released *into* said compartment from wrought-iron cylinders filled with the liquified gas, the fire could have been extinguished instantly and without injury to the 'high class freight' Liquified carbonic acid is now a *commercial* article It is prepared *in* this city, at Saratoga Springs, and is even exported from Germany"

Treatment of Inebriates at County Expense—The Wisconsin Legislature enacted, at its recent session, that when any citizen *of the State* becomes a habitual drunkard and is pecuniarily unable to procure and pay for treatment *for* such disease, any citizen of the State, the next friend, the attending *physician*, or any public officer may petition the county court or judge *thereof*, within *and* for the county where such habitual drunkard resides, for an order of said court or judge *thereof*, permitting said habitual drunkard to take treatment at some *institution* for the cure of drunkenness and drug addictions, established within the State, at the expense *of the* county, as the judge may select But no such court or judge thereof shall entertain a petition or make any order to send any person for treatment, as set forth, a second time Persons treated, who desire to do so, may reimburse the county The term "habitual drunkard," under this act, it is said, shall include all persons addicted to the use of spirituous, malt or fermented liquors, morphin, opium, cocain, or other drugs or narcotics to such a degree as *to deprive him of the* power of reasonable self-control

Intravenous Injections of Mercury.—Intravenous injections of sublimate, introduced by Bacelli and principally employed in the treatment of syphilis, has had different results in the hands of various observers The general opinion is that they are efficacious, but opinions differ as to their inconvenience and the indications for their use Görl, in a recent article[1] gives a resumé of the advantages *and disadvantages* of this method *The* injections are painless, provided they are made in the lumen of the vessel Pain at the moment of injection shows that the point of the *needle* is *not free* in the cavity of the vein These injections enable us to incorporate precise and very small quantities of mercury, which will reassure timid patients and avoid intoxicating those with an idiosyncrasy A third advantage is the rapidity of action, a fact of the greatest importance in certain cases of cerebral or ocular syphilis Lastly, Bacelli's method is not dangerous, at least no fatal cases have been reported yet, does not frighten the patients and does not cause any incapacity for work On the other hand they are impossible or very difficult in individuals in whom the subcutaneous veins are not visible, obese persons, for example The principal objection is that their effects are of short duration It is true that after warding off the most menacing symptoms of syphilis by these injections we may prolong the effect either by subcutaneous or intramuscular injections of insoluble mercurial salts, or by administering the metal in the form of inunctions or pills

Diabetes Mellitus in a Child—This disease is rare in children and very fatal, death generally occurs quickly, as a new case reported by Cnopf shows[2] It occurred in the person of a child aged 2½ years who had always been healthy During a stay in the country it was noticed that while the child was apparently *in perfect health* it did *not* increase in weight as it should from drinking two or three liters of milk daily This lasted for some weeks, after which the author was consulted The child was much emaciated, the skin was pale, there was *no fever*, *the nervous* system, heart and lungs were *negative*, the liver, *spleen* and stomach appeared healthy, there was no diarrhea, but the child vomited the milk from time to time The author advised that the quantity of milk be diminished and that it be drank cold Hydrochloric acid and wet packs were prescribed, but this treatment was of no avail The child wished to drink constantly, day and night, and continued to vomit without signs of any digestive disturbance Fearing a beginning meningitis, the eyes were examined with negative results Urinalysis finally revealed the presence of a great quantity of sugar and a little albumin This was hardly determined when the child was seized with diabetic coma, with the characteristic respiratory symptoms, and died in a few hours A necropsy was refused We are unable to determine exactly the duration of the glycosuria in this case, it may be that therapeusis might have been of some avail if the child had been treated more than four days Statistics show that in at least nine out of ten cases, diabetes in children is a rapidly fatal disease In the case detailed neither heredity, cranial or abdominal lesion, traumatisms, convalescence from a grave pyrexia nor any other of the usual causes of the disease in children was discovered The case emphasizes the importance of a complete and early examination of the urine even in children

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[1] Münch Med Woch, 1895 No 20

[2] Münch Med Woch,' 1895, No 18

A Neuropathic Family —Max Nordau relates the pathologic history of a neuropathic family which he observed in Berillon's clinic The mother is emotional and with exaggerated affectivity Her sister died paralytic There are no other exact details regarding other relations but vague indications of various neuro and psychopathies Her husband, who in life was a man of vigorous health, had been dead for many years, and she had borne five children, three of whom were girls Her daughter, A , born in 1873, did not walk until 5, nor talk until 8 She learned to read and write and sewed as an apprentice to a dressmaker, but without gaining sufficient expertness to obtain a situation as a workwoman When 20 years and 8 months old she had an attack of epilepsy for the first time, which has been repeated every two or three months since Each attack is followed by stupor, then by delirium lasting many hours or days For the last year she has had paralysis of the tongue and all the limbs which is constantly progressing Her mental state is also constantly deteriorating and rapidly tends toward dementia Her sister C , born in 1874, was always sickly and feeble Otitis media caused a slight deafness, character diffident and undisciplined She witnessed the attacks of her sister which impressed her profoundly In March, 1895, at exactly the same age, 20 years and 3 months, she had an epileptiform attack, which has been repeated several times since, and always with phenomena which enable us to exclude true epilepsy A brother, born in 1871, having witnessed one of the epileptiform attacks of C in his turn had precisely similar attacks One daughter and a son present no anomalies This is a case of family contagion A alone is a true epileptic , C had a "suggestion" that she was bound to have the same sickness as her sister and at the same time , and M by unconscious mimicry, reproduced the accesses of C [1]

The Physics of the Bicycle —When a wheelman is moving forward on a bicycle, what keeps him up? is a question often asked, as the rider passes swiftly along on a wheel base practically without width Sitting on a still wheel is an almost impracticable feat , but it is simple enough to maintain an upright position when moving at a very slow speed It is a physical fact that a body in motion persists in maintaining its plane of motion, and unless some additional force acts on the body at an angle to the original line of motion, it will continue to move in its original plane until stopped by friction or arrested by an obstruction A body set in motion tends to move in a straight line, and will do so unless affected by a force acting on it in a different direction from that of the first movement A wheelman is propelled through space at a velocity sufficient to cause him to maintain his plane of movement Should he desire to change this plane of motion, as in describing a curve, he can do it only by calling in the aid of gravity, i e , he must lean to the concave side of the circle more or less, according to the radius of the curve he is following And further, in describing a curve, he is impelled outwardly by centrifugal force, which is more or less, according to his velocity, and he must oppose this force by a centripetal force, which in this case is gravity This he does also by inclining his body toward the center of curvature of the path he is describing In this case the wheel sometimes forms a considerable angle with the ground, so that under some conditions it slips from under the rider The ability of a bicycle and rider in rapid motion to do serious damage in a collision with another machine or with a pedestrian is fully appreciated by few wheelmen A man weighing 150 pounds and moving at the rate of ten feet per second (which is only about seven miles per hour) has a momentum of 1,500 pounds, leaving out of the account the weight of the wheel This is sufficient to upset any pedestrian with terrific force A collision between two wheels, each with a 150 pound rider, spinning at the moderate speed of seven miles per hour, would result in a smashup with a force of 3,000 pounds In view of these facts, it is no wonder that bicycle accidents are often very serious The tractive force required to propel a bicycle over a smooth level surface is estimated at 0 01 of the load , calling the load 150 pounds, a force of one and one half pounds would be required to move the wheel forward, and this calls for a pressure on the pedals of six and three-fourths pounds on a wheel geared in the usual manner When, however, the road is rough or on an up grade, the case is different On a grade of 1 in 10, for example, the rider, in addition to the tractive force, actually lifts one-tenth of his weight and that of the machine With a rigid or semi-rigid tire the rider is obliged to exert sufficient force to lift himself over every obstruction encountered by the wheel, the descent from the obstruction gives back a portion of the power expended in surmounting it, but not all of it In the case of the pneumatic tire, however, the small obstructions are not an opposing element of any consequence, as the tire yields in lieu of the wheel being raised, and the result is the wheel travels as upon a smooth track —*Scientific American*

A Brilliant Scheme —A physician recently answered an advertisement for a partner and received the following circular The person is not a member of the Association as he claims, and is not on the Journal list, either as member or subscriber His advertisement was presented to the clerk, who referring to the medical directory, noted that Dr Henderson was alleged to be a member of the Association and therefore presumably in good standing—in this the directory was wrong As the Journal has no desire to further the interests of any scheme of this stripe, we turn on the light by printing the document

This is the advertisement

PARTNER WANTED.

Thoroughly competent physician, honest honorable, to take charge of my city office practice and correspondence A rare chance to right physician, and a fortune to one who perseveres Address,

Dr H , 84 Adams St., Suite 81, Chicago

This is the reply sent to a physician who answered the advertisement

"*Illinois State Institute of Physicians and Surgeons , devoted to the treatment of Chronic Diseases, Deformities and Surgical Operations Conducted by a full staff of specialists Ample facilities for room and board Office and laboratory, 82 and 84 Adams Street*

Chicago, August 18, 1895

" Dr ———

"*Dear Doctor* —Your letter of recent date has been received in reply to my advertisement for a partner I am desirous of obtaining a partner to take charge of my city practice, which is almost entirely office work, and of my country correspondence It is difficult to give you a correct idea in the short space of a letter of all the advantages which are to be had with taking charge of my office You will observe in the above heading that I am doing institute work which is all outside of the city and is very remunerative the gross receipts therefrom being about $12,000 last year The office work is of course from influence within the city and which I can bring to any one who takes the office here Owing to sickness and three deaths in our immediate family, I have been unable to get out of the city to do any advertising since January of this year, but the receipts from that part have kept up remarkably well The receipts in city practice are excellent, considering the time of year when there is so little sickness and so many patrons out of town, the receipts of the past month (July) being $65 My object in taking a partner is that I may devote all my time to the road work I will expect the partner to pay $500 in cash, and in return he will own all the fixtures and stock of medicines that the office contains, and will be entitled to all the receipts of the office that come from within the city I will then travel and give him half the receipts of the country work for putting up the medicines and doing the correspondence The actual value of the office is about $800, so you see I do not ask any bonus or pay for goodwill or even full pay for the actual value of the outfit To do the work in the office requires just such an outfit as I have here and were we to begin new it would require more capital than this to start The office expenses, including the telephone, are $27 50 a month Each box of medicine sent to a patient for one month's treatment averages about forty cents and I get from four to fifteen dollars for it, so you can see the profit This is the best part of the year for the country work, from September 1 to January 1, and I am satisfied we can clear $800 per month each The amount you get out of the office work will more than pay your expenses of living, etc, so you will have all the receipts of the road work clear I have been doing this country work about half of my time the past five years and am a member of the American Medical Association, so you see it is all right and legitimate As an act of justice to my large patronage in the city, and to the large list of patients I am now treating in the country, I am anxious to get a competent man in here Hoping to hear from you at your earliest convenience, and with best wishes, I am Fraternally yours,

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[1] Le Bulletin Medical, July 24 1895

J P Henderson, M D"

Hospital Notes.

The addition to St Mary's Hospital at St Louis, Mo, is nearing completion and a portion of the rooms are now in use The addition is three stories high with a frontage of 100 feet, and will be devoted mainly to wards, operating rooms and a laboratory It is expected that the entire structure will be ready for occupancy on September 15——Plans and specifications for the addition to St Joseph's Hospital at St Paul, Minn, have been filed with the building inspector of that city The building will be 135x54 feet in dimensions, four stories high, with basement and attic It will be constructed of brick with stone trimmings, with steel roof and fire-proof walls——Articles of incorporation of the St Alexis Hospital Association of Cleveland Ohio, were filed August 21 The institution is incorporated to furnish hospital care to all persons, regardless of race, color, creed, or other condition——The monthly report of the Cleveland State Hospital shows that there were in the hospital on July 15, 996 inmates, that 25 were admitted during the month, and 29 discharged, leaving 992 persons remaining——The convict prison hospital of the Tennessee Coal, Iron & Railway Company at Pratt Mines, Ala, where State convicts are worked in the coal mines, was burned to the ground August 28 The fire originated from a defective flue and the flames spread so rapidly that the twenty-five inmates were rescued with difficulty The laboratory and surgical instruments were a total loss——The new hospital for contagious diseases at Boston, Mass, will be ready for occupancy September 1 The cost of the building was nearly $500,000

Louisville Notes.

G A R—Elaborate preparations are being made by the local profession for the care of the sick during the encampment The following are the officers Medical Director, W P White, Secretary, Henry E Tuley, Assistant Secretaries, T S Bullock and C T Pope, Chief Surgeon, T P Satterwhite, Chief of Ambulance Corps, Samuel H Garvin, Assistant, L D Kastenbine, Chairman of Ladies' Medical Department, Dr Julia Ingram, Secretary, Anna Lawrence The following are the chiefs of the ambulance corps divisions Drs Peter Gunterman, J M Krim, I N Bloom, J M Mathews, Ewing Marshall, George Simpson, W B Doherty, H H Grant Dr Charles P Cook will be in charge of the ambulance corps from New Albany, and Dr T A Graham from Jeffersonville, Ind The members of each ambulance corps will be uniformed and mounted An ambulance fully equipped will follow each division in the parade, in it will be a driver and surgeon, and two stretcher bearers, with two stretchers Each chief of ambulance will have ten mounted physicians in his corps, who will notify the ambulance when needed There will be 120 cots at the City Hospital, 20 cots at the Louisville Medical College, 20 cots at the Kentucky School of Medicine Hospital and 15 at the "Homeopathic" Medical College, if needed, and 15 at St Joseph's Infirmary These hospitals will be under the charge of Dr T P Satterwhite and a corps of physicians, who will be arranged in relief corps, two on duty at each hospital at all hours during the day of the parade These hospitals are located at convenient points along the route of the procession, so little time will be consumed in making a trip with sick or injured On the day of the great barbecue, when it is expected 200 000 will be fed, there will be two hospital tents with physicians in attendance, on the grounds The admirable arrangements for taking care of the sick during the G A R encampment are due to the Medical Director, Dr W P White

Washington Notes.

Health of the District—The report of the Health Officer for the week ended August 17, is as follows number of deaths (still births not included) white, 79, colored, 56, total, 135 Death rate per 1,000 per annum, white, 22 38, colored, 33 47, total, 25 95

Inspector of Contagious Diseases Resigns—Dr Austin O'Malley, who has had charge of the department of contagious diseases in the health office has resigned and intends discontinuing the practice of medicine He has accepted a position as professor of English literature in Notre Dame College, Indiana The duties of Dr O'Malley in the past will be divided One physician will have charge of the inspection of cases of contagious disease, while another will be appointed bacteriologist An excellent laboratory will be provided in the health office

Mrs Anna Wolcott's Charity—The will of the late Mrs Anna Wolcott, which was filed for probate on the 21st inst, directs that her entire estate be turned over to Benjamin P Snyder and Mahlon Ashford in trust They are to invest $41,000, and from the income shall use $25 per annum in keeping in order the burial lot of the deceased at Oak Hill Cemetery, and with the balance establish and maintain in the Washington Home for Incurables, in memory of the daughter of Mrs Wolcott, a ward, to be called the 'Lillie Wolcott Ward," for the treatment in the best manner and free of charge of children afflicted with curvature of the spine and kindred diseases Should the Home for Incurables decline the bequest for the purpose specifically designated, it is provided that the trustees shall select some other hospital in Washington, Baltimore or New York city for the purpose described

THE PUBLIC SERVICES

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending August 24, 1895

August 17 Surgeon S H Dickson, detached from the Medical Examining Board to temporary duty in Bureau of Medicine and Surgery

P A Surgeon H T Percy, detached from the Washington Navy Yard to duty as member of Medical Examining Board, Washington

Assistant Surgeon C P Bagg, detached from the 'Monterey" and granted two months leave

Assistant Surgeon H D Wilson, on arrival of "Monongahela' at Annapolis detached from that vessel and ordered to temporary duty at the Washington Navy Yard

LETTERS RECEIVED

Alleger, W W, Washington, D C Anderson, R B, Seguin Texas Alta Pharmacal Co, St Louis, Mo Alma Sanitarium Co Alma, Mich Ammonol Chem Co New York, N Y

Bithinger, W M Grady, Ark, Belt R C, Milford, Ohio

Curtin, W A, Syracuse, N Y, Clark, M S Youngstown Ohio Cunningham, M E, Garnett, Kan Codman, E B, Fulton, Mich Clark, M C & Sons New York, N Y Carrow, F, Ann Arbor, Mich

Drevet Mfg Co, New York, N Y

Engelman, G J, Chocorua, N H

Fletcher, W W Susquehanna, Pa

Greenley, T B, Meadow Lawn Ky

Hicks Judd Co San Francisco, Cal Hun Henry, Albany, N Y Hummel, A L, Philadelphia Pa A L Hummel, New York, N Y

Imperial Granum Co, New Haven Conn

Johnson, H L E, Washington, D C, Johnson & Johnson New Brunswick, N J

King, W D, Chicago, Ill Kelly, Howard A, Baltimore, Md

Lewis P C Mfg Co Catskill, N Y, Lenhart, W C, Columbus, Ohio, Lentz, Chas & Sons Philadelphia Pa

Mowery H W, Marietta, Pa, Mavity, D E, Towler, Ind Milliken, Jno T, St Louis Mo

Norris, M D Catonsville, Md

Pollock, R M, Princeton Ill Parke Davis & Co Detroit Mich Polk, R L, & Co Chicago, Ill Papold Co, New York, N Y Pepper, Wm Philadelphia, Pa

Ridlon, John, Chicago, Ill Regensburger, Alfred E, San Francisco Cal Rohé, Geo H Baltimore, Md, Stewart, F E, Detroit, Mich Scott, X C, Cleveland, Ohio Sterne A E, Indianapolis, Ind Scribners', Chas Sons, New York, N Y Schimmel, M S, Baltimore, Md

Vansant E L, Philadelphia, Pa

Woodbury, Frank, Glen Summit, Pa, Woods, G B, West Alexander, Pa, Warner W R & Co New York, N Y Wesener Jno A, Chicago, Ill, Wiley, Z K, Baltimore, Md, Wegge, W F Oshkosh Wis, Würdemann, H V, Milwaukee, Wis

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ADDRESS

OUR PRESENT KNOWLEDGE OF TUMORS AND CANCERS

Read before the Mississippi Valley Medical Association Sept [illegible], 1895

BY THEODORE A McGRAW, M D
DETROIT MICH

It is natural in selecting a subject for an address on an occasion like this to choose those achievements in surgery which have made the glory of this generation The rehearsal of triumphs is a most pleasant theme for both orator and hearers, and I have been tempted to indulge in that mutual congratulation which is not out of place when a great profession is called together to debate matters of common interest It has been with a good deal of self denial and some misgivings that I have turned from these pleasanter matters to ask you to join me in an attempt to review the darkest and most difficult field of surgery, in order, if possible, to gain some clear ideas as to the present state of our knowledge of the pathology of tumors and cancers In this department of medicine, we may indeed claim some advances in exact knowledge made during the last three decades, but we can not pretend to any such triumphs as have in the same period revolutionized the methods of operative surgery

If we compare the ideas that prevailed relative to these diseases, thirty years ago, with those which the profession hold to day, we find a change which is marked rather by a clearer view of the nature of the problem than by any actual gain in its solution Before Virchow, the subject of tumors and cancers was wrapped in the greatest confusion It was not only that pathologists had not learned to distinguish accurately between neoplasms and the many false tumors which stimulate them, a kind of diagnosis indeed which is still very defective, but chiefly because at that time there were no clear conceptions of those cellular relations which to-day are regarded as fundamental in all pathology Tumors were divided and classified in that era according to their clinical histories They were divided into the innocent, which were looked upon as purely local, and the malignant, which were regarded as due to dyscrasia, the seat of which was in the blood The latter were looked upon by many as parasitic, and surgeons who dabbled with the microscope were sure that they recognized peculiar cells which differed from all others, and indicated the cancerous nature of the disorder

Under the influence of the new cellular pathology the faith in so called dyscrasia was abandoned and supplanted by a new doctrine, which taught that tumors and cancers resulted ever and always from aberrations in cellular nutrition, development and growth For three decades pathologists have sought the explanation of the mystery of morbid growth in histologic studies It may be truly said that during this time the energies of the profession, as far as tumors are concerned, have been confined almost solely to this channel Clinical observation and chemic analysis had failed alike in throwing light upon this most vexed problem, and the profession turned with enthusiastic hope to the study of the morphology of the cellular elements of the body, as a new field in which they could work without despair There can be no doubt of the gain which has accrued from these labors, clearer ideas have been acquired of cellular relations and even incidentally, of cellular pathology Systems of classification have been founded for the study of tumors which if not altogether satisfactory have, nevertheless, some warrant in science The important rôle played by the embryonic processes of development in the causation of certain morbid growths has been established, and the educated physician of to day could not possibly fall into some of the gross errors which were common thirty years ago, but after all, our progress, great as it has been in some respects, has been thus far disappointing, that it has not brought us to our goal We have been like those early wanderers in Florida, who sought for the magic fountains, they found innumerable tribes of Indians, they crossed many great rivers, they learned more of the new world, than they had ever dreamed of, but the magic waters continually eluded them So we have learned much of cell life and have wondered more and more at the living tissue, but know hardly more of the causes which underlie the growth of a neoplasm than the surgeon who lived a hundred years ago It is interesting as well as wonderful to note how after thirty years of cellular study, many in the profession are reverting to the old theory of parasitism, by which since the world began, men have tried to account for malignant diseases In fact, notwithstanding the ingenious systems of classification now in vogue, it is to day as difficult to define exactly the word tumor, as it was when Virchow wrote his great book All sorts of enlargements at that time were huddled together in the same category Hematoceles, dropsies, inflammations, aneurysms and varicoceles, retention cysts, the distended bladder and even the pregnant uterus were all spoken of in the same chapter with the neoplasm, as tumors Now, while to-day, more judgment is used in this respect, we nevertheless find even in our newest text-books the true tumors discussed in connection with purely accidental swellings It does not help us much, to recognize the fact that the difficulties in classification are inherent and insurmountable with our present knowledge of pathologic processes

In the term, cancers and tumors, we group together certain diseases in common that distinguish them from all other maladies, but when we come to ask ourselves what these common traits are, and try to define them, we become at once perplexed The reason of this is that, in studying the subject closely, we find a multitude of growths which occupy that doubtful zone which lies between the neoplasm on the one hand, and the accidental and inflammatory enlargements on the other We find swellings which seem in part accidental, and yet which belong clinically to the new growths I became first fully aware of this when I tried for purposes of classification to divide all morbid enlargements into two classes 1, the neoplasms proper, or true tumors, and 2, those swellings which imitate them, but are purely accidental or inflammatory, the false tumors I had wished in this way to simplify the subject, but when I began to classify tumors and to determine which properly belonged to the neoplasms and which to the false tumors, I became involved in difficulties There are, in the first place, many growths of inflammatory origin which eventually develop into undoubted neoplasms and it is impossible to draw a line and say, Now, this is an inflammation and this is a tumor A wound will heal badly and there will be left a large, thick, ungainly scar which in its structure resembles closely the keloid growths which spring from scars and are regarded as true tumors Are we to look upon every permanent thickening of a scar as a neoplasm?

The retention cysts are usually regarded as accidental formations, due either to closure of a duct or to a thickening of secretion They sometimes result directly from injury, and yet there are retention cysts or cysts which can not be distinguished from them, which occcur under circumstances which make us conclude that they are true neoplasms It is, however, especially with those tumors which spring from irregularities in embryonic development that we are puzzled in classification There are cysts under the tongue which are due to an imperfect closure of the thyro-glossal duct The duct becomes obliterated at both ends, but leaves a cavity in the middle lined with secreting cells, and as a result there is a cyst Here, then, is no new growth whatever, only a defect in coalescence, and if the defect is still greater and the duct remains open at the outer end, there is no tumor at all, but only a fistula

A dermoid cyst is caused by the infolding of the epiblast, which become displaced and shut in among the connective tissues The cells thus sequestered continue to develop and there results an epidermal cyst, universally reckoned among the neoplasms, but a post anal dimple is formed in precisely the same way, except that the burial is not quite so complete and yet no one thinks of calling such a recess a tumor

If we are to class those growths which arise from superfluous and aberrant embryonic germs with the neoplasms, how can we leave out of the category those extra fingers and toes which often hang from the side of the hand or foot by a mere thread of tissue We may say of an extra toe, when it is in its proper place on the foot and endowed with tendons, nerves and all of the apparatus for motion, that although unusual it is nevertheless not abnormal But the extra toe that grows from the skin on the side of the foot is, in its origin and growth, just as much of a tumor as the sequestered piece of epidermis that we call a dermoid and yet no one thinks of calling it a neoplasm

It is practically impossible to sharply define processes which are in their nature transitional, and the utmost which can be done as yet in the way of classification is to establish certain broad distinctions which may act as landmarks by which we mark the passage of nutritive operations from the normal to those essentially abnormal conditions such as we find most pronounced in the typical neoplasm It is a gain, nevertheless, to know that the transition is gradual and that the healthy structure is not sharply defined from that which is morbid

There is no theory which has yet been framed which satisfactorily accounts for the phenomena exhibited by morbid growths Virchow's doctrine of the proliferation of the cellular elements under prolonged irritations is too vague to be of practical value What we need to know and what we have not been able to find out, is the nature of the conditions under which irritation will produce that effect, for we know very well that, as a rule, in healthy individuals, prolonged irritations cause chronic inflammation but not tumors It may be that there are specific irritations which generate neoplasms or that common irritations acting upon peculiar local or constitutional conditions may produce such results But of these things we have as yet no exact knowledge whatever

The most successful attempt to account for the origin of tumors and cancers was that of Cohenheim Like Virchow, he sought for the causes of their being in local conditions, but referred their origin to anomalies in embryonic development He supposed that in the differentiation of the ovum and the cells of the embryo there was in many individuals an excess of material over and above the needs of the organism for the formation of the various tissues, and that the superfluous cells remained as living germs undeveloped among the unfolding structures He further supposed that while they drew their nutriment from the organism, they were not able on account of their lack of development to establish physiologic relations with it, and came to occupy the position of parasites Living thus in a condition of latency, they were liable to be stimulated into sudden activity by any chance irritation, and would then begin to grow and multiply, but coming belated into active life would not be able to form normal relations with the body and would develop into tumors

He accounted for the varieties of tumors on the hypothesis that the malignant kinds dated from the very earliest periods of embryonic existence, when the cells had an enormous power of multiplication, and the more innocent, from a later period after the tissues had become more differentiated The original chapters in which Cohenheim dilated upon his theory are among the most entertaining in all medical literature, and when we consider that his was the first and, even now, the only intelligent theory in explanation of the origin of these peculiar diseases, we can understand the enthusiasm with which it was received by very many physicians The immediate result of its publication was to stimulate pathologists to investigate their cases with the view of testing its correctness Evidences were therefore sought for in all tumors, of an embryonic origin, and the search was rewarded in many cases by finding traces of anomalous development

The dermoid cysts, the enchondromata of the parotid, certain tumors of the kidneys, the adenomata of the axilla, the rhabdomyomata, and many other neoplasms were connected with the aberration and sequestration of embryonic tissues It was, however, quite another thing to establish this as a general law for all tumors and, thus far, research in this direction has only established the fact that certain tumors date from intra uterine life, while others apparently originate in more or less adult structures In cancers, and sarcomas especially, the proof of an embryonic origin is lacking The growth of these tumors differs widely in kind from the growth of embryonic cells The latter are marked by a vigorous multiplication and growth, in which there occurs a constant succession of new forms The malignant tumor repeats indefinitely the one form of cell with which it started The cells of the embryonic increase in numbers vigorously at first, then more slowly, and finally cease to multiply Those of a sarcoma or cancer become more fruitful as the malady continues, until finally they destroy all the tissues around them The type of embryonic development then is a rapid propagation of new cells, each new brood of which differs from the mother cells, with a continuous loss of generative momentum The characteristics of malignant growth are a repetition of one cell form with a continuous gain in generative momentum It is wrong to regard the embryonic faults where they occur as mere accidents The peculiarities of the phenomena do not admit of so easy an explanation Behind the fault in development there is some defect in energy or in the mode of its expression, which causes the fault This theory of Cohenheim's has been variously modified Grawitz's theory of "*schlummer zellen*" and Bibbert's of cells which have lost their organic connections would never have seen the light had not their authors read Cohenheim Among the most fanciful of conceptions must be regarded that of Schleich who conceived the idea that tumors arose by a process of morbid cellular conception He fancied that under the influence of certain irritations a cell became diseased, and that joining with neighboring cellular elements in a sexual union, produced a morbid progeny The repetition of these processes led to the formation of those great aggregations which we call tumors Such speculations, founded on no other basis than the imagination of the author, contribute little to our actual knowledge The revival of the old theory of parasites, in explanation of the malignant growths, is an index of the insufficiency of the theories which have for thirty years past formed the stimulus to research The belief that cancers owe their being to a parasitic infection is almost as old as human experience It is a kind of blind faith to which the mind constantly recurs when all other explanations fail The existence of many false tumors which are caused by parasitic infection, and the evidently infectious course of malignant tumors gives support to the theory that they too owe their origin to the introduction of living cells from without One can not study the history of actinomycosis, or that of the coccidia of rabbits without feeling struck with the similarity of the phenomena which they present to those of sarcoma and cancer So, too, the formation of granulation cells under the stimulus of bacteria suggests possibilities, as regards the origin of those forms of sarcoma, which can not be distinguished from granulation tissue While we have as yet no positive evidence that the enormous cellular proliferation of sarcoma or cancer is due either to bacteria or to protozoa, there is, nevertheless, nothing in such an hypothesis inherently impossible The burden of proof, however, must rest on the advocates of the doctrine, and as yet they have not been able to establish their case The objects observed in the cells of cancer are of such doubtful nature that they have been variously described by different experts as bacilli, protozoa, invaginated epithelium, products of degeneration, leucocytes, etc No one has as yet succeeded in cultivating the parasite in artificial media, and even the efforts to inoculate it into the healthy animals have been rarely successful As long as the histologic evidence is so doubtful that every observer feels at liberty to interpret it according to his own prejudices we shall be obliged to defer judgment, or to pronounce it on other grounds The arguments offered in defense of the parasitic theory of cancer are 1, the microscopic evidences, the uncertain character of which has just been remarked, 2, the frequent occurrence of auto inoculation, and the evidently infectious course of the disease in the organism, 3, the endemic occurrence of cancer in certain localities, and in rare instances in the same houses, and, 4, an occasional success in inoculating the disease in healthy animals

The arguments against it are 1, the many instances of hereditary tendency, 2, the general failure of experiments of inoculation, 3, the fact that metastases occur, not through the transfer from one point to another of parasitic germs, as is usual in parasitic diseases, but by the transmigration of cells bearing the same characters as the cells of the original tumor, and the subsequent proliferation of the migrating cells, 4, the fact that not only cancers but tumors of all kinds have a more or less tendency to produce metastases, and, 5, the tendency exhibited by embryonic remains and histoid tumors to develop into malignant disease

It is difficult to understand why, if cancers and sarcoma are parasitic, surgeons who operate often with cut fingers, and nurses who take charge of cancerous sores, never become infected unless, indeed, as has been suggested, the cancer germs have to undergo some transformations out of the body before they can reproduce the disease

It is very possible that among the sarcomata some may be found arising from this cause, but even though this may be so, we would be as much as ever in the dark as to the causality of those other remaining tumors which could not be explained on that basis The understanding of actinomycosis has not advanced our knowledge of true tumors, neither would the discovery of other false tumors now reckoned among the neoplasms Among the influences which predispose to or against the growth of cancers and tumors, race must be considered the most efficient Detroit has a pretty large colored population, and there is a thick settlement of negroes on the opposite shore in Canada Detroit physicians, therefore, see a variety of morbid conditions in that race I think it is the common belief among them that malignant tumors in negroes are very rare I have seen a great many fibroids and fatty tumors, but never yet a cancer or sarcoma in a pure negro I believe that the experience of Southern physicians will corroborate my own in this particular Dr R Williams states, on what authority I do not know, that while in 100,000 whites there 27 96 cases of cancer, there are in the same number of blacks only

12 17 I have reason also to believe that tumors of any kind are rare among the Indians Some years ago I sent a printed circular to the medical men employed at the various Indian agencies in the West, asking for information on that point The answers that I received were not sufficiently exact and trustworthy to warrant publication, but I gathered from them the information which I have stated It would be an exceedingly valuable addition to our knowledge if we could secure exact data as to the prevalence of these diseases in various races all over the world It would be a proper undertaking for the government, but much could be done in that way by international medical associations As far as appears from the meager evidence on this point, the white and yellow races seem to be most afflicted with malignant disorders, and the black and red races most exempt

After race, locality would seem to be most important Certain districts in England and some in this country yield an extraordinary number of cases of cancer, while other places are comparatively immune Whether this indicates a possible infectious influence in certain soils or an hereditary tendency to the disease in certain families, is an important question The facts in regard to the relative frequency of malignant disease in various places are as yet too meager to afford data for argument The question of heredity, too, has never as yet received that intelligent investigation which can be accomplished only by large numbers of physicians acting in concert It must be remembered in estimating hereditary influences that every human being represents an immense number of ancestors, and that few of us can go back two or three generations without finding in the direct or collateral lines examples of almost every variety of disease, common to the country and climate

Let us suppose that a man who died of cancer had thirty grandchildren, and that one of these became cancerous while the other twenty-nine remained immune, how should we reckon the hereditary influence? There are cases undoubtedly in which the cancerous tendency is so marked in certain families as to be unmistakable There is a form of heredity in cancers and tumors which has been too little studied, and which has an even more important bearing on the question of the essential nature of cancer than the heredity of cancer itself, and that is an heredity marked by an alternation of histoid or other comparatively innocent tumors with cancer or sarcoma

We might explain the heredity of cancer as we do that of tuberculosis, as merely an hereditary weakness which made the organism liable to parasitic invasion, but if we can establish the fact that the hereditary influence in a given family is not limited to the growth of malignant tumors alone, but exhibits itself in the production of a variety of dissimilar growths, we shall have done much to disprove the whole theory of parasitism There occurred in my own practice once, some cases illustrating forcibly this tendency Mr X had numerous atheromatous cysts on the scalp which, however, gave him little trouble He died from other causes He had two daughters His oldest died of cancer of the breast His youngest daughter had numerous cystic tumors on the body In 1863 she had a large cyst removed from the shoulder, and one shortly after from the thigh, in 1871 one from the head, in 1873 one from the abdomen, and one from under the chin and in 1875 came to me on account of an ulcerated cyst in the small of the back I removed this and examined it closely It had every characteristic of an atheromatous cyst and nothing more During her convalescence she had an attack of erysipelas, during which I discovered on one shoulder a small sebaceous cyst which had been overlooked The result of the erysipelas was to cause suppuration in this cyst and the discharge of the usual contents of such formations She recovered and has been since then, as far as I know, well

The daughter of the first child of Mr X had atheromatous cysts of the scalp The second child had four children of whom the oldest, a son, had cysts on the head and shoulder

Her second child was exempt The third child, a daughter, had cysts on the scalp The fourth child, a daughter, the wife of a physician, was attacked by a sarcoma of the breast while nursing her only child. I amputated the breast, but she had an immediate and general recurrence and died Here then were seven persons in three generations affected with tumors In five, the tumors had the characteristics of ordinary atheromatous and sebaceous cysts In two, there were malignant tumors causing death It is impossible to explain such a history on the theory of parasitism The influence of age and sex, the greater tendency of these diseases to certain parts of the body, and the effect of injuries as predisposing causes, are all too well understood to warrant me in detaining you for their discussion

In considering the forces which further or retard the growth of neoplasms, we have to take in those dark and hidden influences which our ancestors used to call constitutional With the advent of cellular pathology, this word has become "taboo" with the pathologists of to-day who boast of their efforts, sometimes crowned with success, to trace all morbid action to local forces To ascribe maladies to constitutional causes is, in their estimation a confession of ignorance, best to be avoided In order, however, to explain the immunity of some people to these disorders, as well as the long periods of latency which often exist even with malignant tumors before they manifest their full capacity for growth and infection, it has been necessary to assume the existence of some protective force residing somewhere within the organism In conformity with the prevailing tendencies, this force has been imagined as inherent in the various tissues of the body, rather than in the body as a whole Thiersch's theory, adopted and amplified by Cohenheim, assigns to every structure a certain capacity of self-preservation by virtue of which it is enabled to hold its proper place among the tissues and to resist any encroachment of other cells or membranes upon its territory By virtue of this local force, granulations which fill an open wound to the surface are then inhibited from further growth by the epidermis, which begins, so to speak, to assert its rights and grow over the granulations, as a covering This local influence, too, holds the adherent embryonic germs in check, and prevents their development until some chance inflammation or injury deprives the tissues of their self preserving power Two coinciding conditions are, therefore, held by Cohenheim to be necessary to the development of any tumor, the first of which is the existence among the normal structures of some belated germs, and the second of which is the loss of resisting power on the part of the surrounding structures. The effect of an injury in producing a neoplasm is supposed to be twofold. It at the same time weakens the normal membranes and stimulates into activity the parasitic cells. All the influences which concern the formation of tumors, whether to favor or hinder their growth, are imagined to be purely local in character. It is a great question whether the facts of pathology justify the total abandonment of the conception of a constitutional something by which the power of an organism to resist injury is determined. The old doctrines of primary humoral dyscrasia are untenable, and we have no plausible hypothesis, as yet, on which we may satisfactorily explain all the phenomena, but we may recognize the existence of things which we can not explain. The constitutional tendencies of individuals to certain maladies, and the immunity enjoyed by other individuals are facts which have to be acknowledged.

A person suffering from cancer is exceedingly liable to auto-inoculation by cancerous material which can not be inoculated into another individual. Surgeons are continually working in that material, often with cut fingers, and yet never infected, although it is a prevailing belief among practical surgeons that recurrence in the patient often takes place from an auto-inoculation during the operation. As such patients may be inoculated on any part of the body, and as all tissues become alike infected, it is impossible to avoid the conclusion that the cancer is after all only the local expression of a general tendency. It is not difficult to imagine that an organism developing from a common center, should in all parts exhibit traits peculiar to itself. All of its component cells, descended from a common matrix, would have nearly the same tendencies and would on occasion tend to show the same strength and the same weakness. While it is not possible for us in any given case to demonstrate in what the constitutional peculiarities of such an organism consist, we must, nevertheless, admit that they exist and make the individual what he is, different from all other individuals, even of his own family. The doctrine that the resisting power inherent in a healthy organism is simply a local force resident in the tissue has never seemed to me to be tenable. When we consider the human body composed as it is of an infinite multitude of cellular elements, each of which may on occasion live an independent life, when we note the perfect coordination with which they perform their functions and with which they multiply and grow with sole reference to the good of the organism, we are struck with wonder and admiration at the perfection of the mechanism. It is inconceivable that such complicated processes are carried on without regulation by some governing center. To insure the perfect nutrition of the body, control must be constantly exercised not only over cell functions, but also over cell generation and multiplication, and though we may conceive this control to be rendered easy by the automatic reactions of the cells to stimulus, we may hardly imagine it as a merely local function. There is no fact more positively certain than that this power of control is exercised in the healthy body with an iron consequence. We see evidence of it in all the processes of nutrition and growth. We see it in the repair of injuries, in which the growth of granulation tissue is permitted to reach the proper level, and then inhibited from further increase, and in which the epidermal cells remain in quiescence until the granulations are prepared for their protective covering, and then grow like a mantle over them. It may be noted in the destruction of all useless tissues. It is a law of the healthy body that all structures which have become worthless for its purpose shall be made to degenerate and disappear. The alveolar process when deprived of its teeth, the synovial membrane, when the joint is kept too long at rest, the muscles of the amputated limb, the generative organs after the change of life, all tend to atrophy or to undergo fatty degeneration. The law which makes existence in the organism depend upon the constant exercise of function is so rigid that a man can not stop the working of any organ without injuring it. If he ceases to think vigorously, his brain grows less, and if he ceases to exercise his muscles they grow weak.

On the other hand, in response to the demands of the organism, organs will increase in size and vigor, just as the one kidney becomes hypertrophied if its neighbor becomes incapacitated.

While the fact of the control on the part of the healthy organism of its component parts is then beyond question, while indeed its very existence as an organism depends upon that control, we are as yet in the dark as to where the controlling force resides and as to how it is exercised. There are some facts which indicate that it may be located in the central nervous system. We may infer this from the disorganization which is apt to follow upon disease of the spinal cord. No one who has seen the diseased joints of locomotor ataxia, the muscular wasting of poliomyelitis, or progressive muscular atrophy, or the sloughing bed-sores which follow upon injuries of the spine, can refuse to recognize the effect of the disorganization of the spinal center upon the nutrition of the body. It is, however, not only in the disorganization which ensues upon the destruction of the spinal cord that we may note this influence, but in an actual growth of tissue which follows upon certain disorders of the nervous centers. Of late, some observations have been made in that peculiar condition called acromegaly which indicates that it is caused by disease of the pituitary body. Acromegaly manifests itself in an abnormal growth of one side of the face, or jaw, or of the hands, or feet, or other parts of the body, and may occur in connection with gigantism. Now, in several cases of this disorder, the pituitary body has been found to be enlarged and apparently diseased.

In pseudo hypertrophic paralysis and in Graves' disease, there is reason to believe that the abnormal growth of connective tissue in the one malady, and of thyro glandular tissue in the other are directly due to nervous disturbance. The theory that tumors originated from some trouble of the nervous system is not new.

Virchow quotes Schroeder Vanderkalk, as advocating the doctrine that neoplasms owed their origin to a disease or injury of the central nervous system and the loss thereby of that governing force which regulates cell growth and reproduction, but himself rejects the theory on the ground that paralyzed animals are not especially given to the production of tumors.

This conclusion does not seem to be altogether justified, for while paralytic conditions are more or less apt to lead to disorganization and atrophy rather than growth of tissue it is not impossible that cell nutrition and reproduction may be, like some functions of the body, regulated by centers of two ganglia, one of which would stimulate and the other inhibit all proliferation In that case it may be easily possible that an injury which would totally destroy the spinal cord or cut off all communication with it, would result in disintegration, while one confined to the inhibiting centers might become manifest by a growth of new tissue

The disorderly growth in acromegaly, marked in many instances by an enlargement of the pituitary body is supposed to depend, not upon the paralysis, but on the over-stimulation of a nervous center Whatever weight may be eventually accorded to Vanderkalk's theory, it would seem to be a lead worth following For that which distinguishes the neoplasm from all other morbid enlargements is the fact that the cells which compose it have, in some way, succeeded in escaping control, and in proliferating without regard to the necessities of the organism This characteristic of a persistent growth of useless tissue and reckless, uncontrollable reproduction is our only criterion of a true tumor Lucke's definition of a neoplasm "that it is a mass of growing tissue which has no physiologic connection with the organism,' does not seem to me to express the whole truth I should define it rather as a mass of growing cells over whose nutrition and growth the organism had lost control For this seems to me to be the one essential factor in the growth of any neoplasm

When one considers the absolute necessity imposed upon a complicated organism, made up of a multitude of semi-independent cells, of holding these, so to speak, in discipline, and obliging them to conform in all their activities to organic law, it becomes apparent that the power of control is that which is most essential to its healthy existence The loss of that power over any of its parts means something more than a merely local defect or local disease The commonest fatty tumor has, therefore, in its very existence something portentous It does not mean merely that a few fat cells have been stimulated to needlessly multiply, but it signifies also that in that organism there is some defect in the mechanism of control It may mean too that there exists a liability to the development sooner or later of more formidable growths

For these reasons, I can not but dissent from the prevailing doctrines which ignore all other causes in the production of tumors than those of local significance There is a tendency in modern pathology to exaggerate the significance of local conditions and operations, and, in the study of cancer, this may be remarked in the undue importance attributed in its causation to local irritations If we examine, for example, the list for alleged causes of cancer of the lower lip, and for the immunity of the upper we shall find that they will not bear criticism Tillmann lays great stress on the use of tobacco and brandy, but Bardelsen tells us that the inhabitants of the coast of Pomerania who do not smoke, but who chew tobacco, have frequently cancers of the lip but few of the mouth or fauces Surely if tobacco causes the disease the reverse ought to be true All the world uses tobacco and brandy and no persons more so than certain inhabitants of the tropics and yet cancer is said to be rare in the tropics Thiersch ascribes its prevalence among the peasants to the injuries inflicted on the lower lip by the weekly use of a dull razor but it is frequent, as I can testify, among a class of American farmers who never shave and some of whom use neither brandy nor tobacco

It is difficult, too, to understand why exposure to the weather, another alleged cause of labial cancer, should not affect the upper as well as the lower lip

So, too, as regards the occurrence of cancer at the cardiac and pyloric orifices of the stomach and the comparative immunity of the rest of the organ, we read that the greater liability of the cardia and pylorus to insults and injuries is the cause of their greater susceptibility to the disorder—but here arises the question of fact Are those places more subject to repeated irritations than the mucous membranes of the interior of the stomach? When food passes through those orifices there may be a momentary friction, but is that more irritating than the long presence of great masses of undigestible food, or acid fluids, some of which are absorbed directly through its walls?

It is a notorious fact that the mucous membrane of the stomach is especially exposed to the greatest variety of chemical and mechanical insults and that inflammation is a frequently recurring result of such injuries

I do not think that any unprejudiced man, examining the facts impartially, would affirm that the extremities of the organ suffered more in this respect than its interior If repeated cellular irritations cause cancer, how is it that the liver is so rarely affected with the primary disease? It is peculiarly exposed to injury by the frequent passage through its vessels of alcoholic and other irritants, which frequently cause destructive chronic inflammations As the liver is especially prone to the secondary manifestations of the disease, it can not be said that its comparative immunity from the primary is due to any peculiar power of local resistance If we wish to get at the truth of the etiology of cancer and tumors it will not do to accept statements with so little criticism

We have not yet collected the data on which we can found a rational judgment as to the origin of cancer We do not know, for instance, the relative frequency of the disease among the people who do not use tobacco, or who do and do not shave That local irritations may excite the growth of neoplasms in some subjects and in some tissues is beyond all question, but this irritation can be but one factor in what is a complicated chain of morbid activities Whether we can consider the beginning of trouble, with Schroeder Vanderkalk, to lie in a morbid change in some nervous center, or whether we rest content in our present ignorance, to ascribe it to some vague constitutional defect, we must, nevertheless, recognize behind the neoplasm, an impairment of that controlling mechanism, without which no complicated organism can exist It does not militate against its existence that we are unable to define and locate it Now if we apply this principle to those tumors which result from anomalies in embryonic development, we shall interpret the phenomena far otherwise than was done by Cohenheim

To Cohenheim, the occurrence of useless aberrant germs was something merely accidental While the excess of germinal matter itself was regarded as something fortuitous, its persistence was considered as a matter of course It did not seem to occur to that investigator there might be in every embryo a larger supply of germinal matter than is actually needed for the development of the various organs and tissues, and yet there are reasons which I shall not discuss here for believing that that is the case

Nature is a spendthrift in all that concerns the proliferation of organic bodies In the development of the embryo there must be a large surplusage of embryonal cells, which have to be disposed of Whenever embryonal junctions take place, there must be a liability to the infolding and dislocation of germs When such superfluous and aberrant cells remain undeveloped among the tissues, that which is morbid is not their primary existence, nor their displacement, but their persistence In the healthy embryo they would be treated like the *débris* of a new building, they would be destroyed and expelled This disposal of useless material must be a constantly occurring process in every organism which passes through the stages of development in a normal manner Occasionally an exuberance of growth will be corrected after birth This may be seen in the frequent disappearance in the early months of life of the milder forms of congenital nævi A child will be born with numerous stains on the skin, caused by a growth of the minute capillaries, and in a few months they will be no longer perceptible Sometimes even larger nævi will thus spontaneously lessen in size, and finally vanish, as if the organism were finally perfecting itself and acquiring a late control over its members

In some cases, indeed, in which the effort to get rid of useless material has been only partially successful, we may see, nevertheless, that the effort has been made If a supernumerary finger or toe is so located among the digits as to be a useful member, nature is content to leave it undisturbed, but when it grows from the side of the hand or foot, where it is only an inconvenience, she will apparently try to cut it off Such growths are often formed to hang by a mere thread of tissue, although otherwise quite well developed We may believe that in many cases the amputation thus begun may have succeeded, and the useless member thus disposed of The survival then of embryonal remains must indicate something more than an accidental excess of tissue It means that there exists a congenital defect in the mechanism of control, which if not corrected may lead to danger Experience shows, indeed, that such imperfect structures are exceedingly liable to malignant degenerations

In speaking of the loss of control as a defect, it must not be understood that it is always congenital, or always permanent or progressive We may believe that while certain individuals are born defective in this particular, others become so by the wear and tear of time, and even that, in some cases, the power may be regained by a return of the individual to a state of health We can imagine that in some cases the loss of power might result from organic change, while in others it would be a mere functional disturbance We may also suppose that even though the controlling power is weak, it would suffice to maintain order until the occurrence of prolonged local irritations would excite a cellular rebellion, and that a neoplasm once formed would tend to increase the disorder The extirpation of the tumor and of the disturbed area would in many cases cure the malady, temporarily, at least, by removing an element of contagion, as well as of irritation

The knowledge that behind the local growth there was a constitutional defect should cause no relaxation in our efforts to get rid of a presence, which, either by scattering seed, or possibly by some catalytic influence, would tend to spread the disorder over new areas The established fact that cancer may be easily inoculated on the individual who has it, though with great difficulty on healthy persons, shows the influence of constitutional conditions on such growths, but the equally established fact that thorough extirpation will often act curatively for many years, proves no less the influence of local conditions and of the contagion exercised by the disease

The test, then, of a true tumor is that it is a cellular rebellion All other morbid enlargements are either established in the interests of the organism, to protect it from harm or to repair injuries, like the inflammatory exudate, or are accidental products of disease, or are tumefactions caused by parasites The inflammation becomes a cancer when the cellular proliferation takes place, no more in the interests of the organism, but as a wild and purposeless growth It marks the loss of control, which is one of the worst forms of degeneration

As regards the treatment of these maladies, whatever success has been obtained has been by complete and thorough extirpation Whatever the character of a tumor, whether fatty, or fibrous, or cancerous, or embryonic, it always has the tendency to an aggressive growth While extirpation does not cure the underlying defect, it may and often does prevent it from becoming operative All that we have gained in treatment has been in the way of earlier and more thorough operative procedures If we compare the practice of to day relative to cancer of the breast with that of thirty years ago, we may see best the change which has taken place in this respect The surgeons of the earlier day rarely operated in the early stages of the disease Only when the infection had become pronounced was the patient brought to the knife Care was taken in operating to leave sufficient integument to cover the wound, and the axilla was only opened when the glandular infection had become very apparent

Now, notwithstanding the many sins still committed in this respect, physicians send many cases to the surgeon as soon as their attention is called to the trouble In all cases the competent surgeon removes the entire breast, following it up in its many ramifications over and between the pectorals, and everywhere far under the integument He invariably removes all of the axillary glands, all of the infected skin, the pectoral fascia, and often both pectoral muscles He explores the sub- and supraclavicular spaces, and extirpates any perceptibly swollen glands, and following the practice of Tiffany, when the inner edge of the breast is involved, he resects a couple of ribs, in order to get the infected glands out from under the sternum, and, finally, if the blood vessels and nerves have become so infiltrated as to preclude recovery by any method of lesser gravity, he may proceed to amputate the arm at the shoulder in order to extirpate the affected tissues

If we seek from the literature to learn the success of these radical operations, we find ourselves at fault on account of the insufficiency of the *statistics* It is impossible to judge from the published statements what proportion of cases were operated on in the early and what in the late stages of the disorder, and yet, this is the most important point of all to be considered There is little value in figures which say simply that during a given time at a given place so many cases were operated on and so many recovered, for it is evident that such operations as were undertaken after general infection had been accomplished would entirely vitiate the statistics of those cases subjected to operation in the beginning of the disorder All that we may safely say, as regards this question, is that a considerable minority of the cases operated on early, possibly 20 per cent, have been radically cured

The important thing for the profession now to consider is the direction in which we may push our investigations to the best advantage The hopes which were entertained on the first introduction of the cellular pathology of the speedy solution of the problem of morbid growth have not been realized We have learned to trace certain tumors to embryonic anomalies, we have been treated to a great number of improved theories We have added an element to our diagnosis of somewhat uncertain value, but the study of histology has not enabled us to know why certain cells rebel against the organism and grow into it as foes and parasites Neither may we hope ever to gain that insight by purely histologic studies, for the explanation of physiologic and pathologic processes does not inhere in anatomic knowledge It is a long way from the knowledge of form to that of function We can not tell why one cell will secrete gastric juice and another mucus, nor can we tell by examining a cell what it will secrete For this reason, the exclusive devotion to histologic investigations of the last thirty years has failed to bring the required understanding Even the efforts to classify tumors according to their cellular genesis have been only partially successful If, however, we could learn to trace every cell in every tumor back to its early progenitors and follow every step in the acts of the genesis, we should indeed know much that we do not now know, but should nevertheless be as much as ever in the dark regarding the causes and essential nature of the pathologic change It would be as it is now with a superfluous finger We know that the finger has originated in superfluous aberrant embryonic cells, but why the unnecessary tissues was formed, and why it was not cut off and destroyed, we do not know We can not too highly estimate the gain to the world from the line of thought initiated by Rudolph Virchow, and from the painstaking work which has been accomplished in the field of minute anatomy during the last three decades, but we should make a great mistake if we neglected those other sources of knowledge which no less require patience and laborious study The relations of the cell to the organism can never be understood if we confine our attention to the cell alone We must study also that complex mechanism which out of a multitude of cells makes an organism The secret of the neoplasm is hidden in the laws of organic control This most evasive of physiologic laws may never be fully understood, but it at least, calls for an effort at investigation We need a much more complete knowledge of the functions of nervous centers The post-mortem examinations of patients dying of tumors or cancers should not be confined to cellular changes exhibited by the growths, but should be extended to the sympathetic ganglia and the central nervous system Perchance in the spinal cord, pituitary body or some large mass of ganglionic cells, we may be able to locate the original seat of trouble If the results of such examinations should prove to be altogether negative, they would still have been of service

There are many relations of tumors to the organism and to each other which have never yet been ascertained We have never yet learned in any exact way the relations of the more innocent to the more malignant growths Whether a man who has a fatty tumor is more liable than another to cancer, whether the persistence of useless embryonic remains indicate a constitutional or local defect, whether the benigner tumors occur in a community in the same relative proportion as the malignant growths, and whether they are alternate with one another in cases of proved heredity, these, and a multitude of others are questions to which, with our present knowledge, we can give no satisfactory answer One difficulty in eliciting satisfactory information is the length of time over which the history of a cancer stretches One must know the medical records of several generations to be able to correctly judge of a given case

It is exceedingly important to determine, if possible, the real truth regarding the alleged parasitism of cancer and sarcoma This ought not to be the most difficult of the difficult problems to be solved in this study If we ask what the profession can do, that it has not done to make these researches more intelligently and efficiently, the answer would perhaps be this, that while individuals in the profession have made most laborious researches in special directions, there has never yet been that systematic well-directed cooperative investigation of these diseases which promises the best returns

The men who have chiefly studied these maladies, have been the school men in their hospitals and laboratories But there is a vast amount of information needed which can never be acquired from such sources What can the hospital surgeon or the pathologist in his laboratory learn, except at second hand, of the racial peculiarities of these diseases or of the family tendencies, or of the endemic relations of soil and water, or of similar troubles of the lower animals, or of the modes of life of the persons affected While the hospital and laboratory work will probably always occupy the first place in these researches, there are other lines of investigation which we can not afford to neglect

The French have recently formed a society called the League against Cancer, whose object is to institute a crusade against the malignant diseases I am inclined to think that some of the more stolid Anglo-Saxons regard the movement as fantastic, and yet the work which could be accomplished by such an association of enthusiastic observers might be invaluable Instead of the limited investigations of specialists in narrow fields, there could be instituted a comprehensive scheme of inquiry, by which every possible source of knowledge could be probed to its depths The etiology of all true tumors and cancers, in their relations to the numerous animal species as well as human races, and as influenced by civilization, habits of life, hereditary, climate, water supplies, and all endemic conditions, could be studied in a way that would give us exact scientific data instead of the no knowledge which we possess to day The influence of hereditary syphilis to which the elder Gross and after him Esmarch have ascribed the origin of certain so called sarcomata, could be made the subject of special study

The practicing physicians who more than any one else have access to the facts upon which our doctrines of hereditary transmission rest, could be interested in keeping exact records on blanks furnished them by the association Boards of health could be stimulated to use the material at hand for scientific research

In every large city, competent pathologists and histologists could be appointed and paid, for carefully examining and reporting on all tumors sent to them by physicians living within a certain radius, and printed instructions, directing in detail the methods of investigating cases, making post-mortems, and preserving the morbid specimens, could be sent to all applying for them Veterinary surgeons could be enlisted in the work for the purpose of bringing to our aid the knowledge to be gained from the study of comparative pathology, and the experiments which we are forbidden to make on the human subject could be instituted on the lower animals Medical colleges could be invited to add to their clinics for the treatment of human maladies, clinics for the domestic animals which would then provide the material for study The various governments of the world could be asked to collect careful statistics as to the prevalence of these diseases among the many peoples

Physicians could be better instructed in the means of diagnosis and in the necessity of early operative treatment And last, but not least, the laity, admitted to the association could be induced to assist, not only with liberal contributions of means, but also by that intelligent cooperation which would lessen our difficulties in collecting evidence and making post-mortems and keep the sufferers out of the hands of the quacks

It seems to me that there can be no question of the utility of a project which would put the direction of the investigations in the hands of the best men in the profession, and which could enlist even its humblest in the work of supplying the necessary knowledge The movement of the French society deserves our applause and sympathy, and we should manifest our approval by taking measures for effective cooperation

It is fitting that this society, composed of the flower of the profession of the great Mississippi Valley should assume the initiative in this country in effecting an organization for this purpose

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SANITATION IN STREET PAVEMENT

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, held at Baltimore Md May 7 10 1895

BY HENRY O MARCY, M D
BOSTON MASS

One of the most interesting problems of modern sanitation is found in the making and maintaining of the roadbed in the streets of all our larger cities The dangers therefrom consist chiefly in the atmospheric contamination induced by the great variety of material which necessarily collects upon the roadway and is usually denominated as dust This, when it is wet, is generally considered as mud, but is better stigmatized by the use of the English acceptation of the word "nasty' When dry, as dust, the atmospheric currents disseminate it in all directions This the passers by must often inhale and, by any means yet known, it can not be excluded from the neighboring houses In great measure, dust is the bane of the housekeeper in urban surroundings In character it is composite, consisting chiefly of the pulverized material from the surface of the roadbed, mixed with animal excreta, incident to ordinary travel Under favorable conditions of heat, moisture, etc, these furnish the media for the development and dissemination of disease germs Infective bacteria are almost never absent from street dust, and they often find an easy entrance into the human economy by means of respiration So long ago as 1883, I cultivated various forms of bacteria taken from excavations at different depths beneath the best streets in the city of Boston, a noteworthy illustration of which, published at the time, was taken from Beacon Street, opposite the Public Garden, a considerable distance beneath the surface

Dr Sternberg, the present Surgeon-General of the United States Army, was one of the first scientists to call attention to these dangers, and after reporting the results of his investigations upon the filth of cities, as dangerous in large degree, because of septic organisms, wrote "It must be remembered that the gutter mud of to-day, with its deadly septic organisms, is the dust of to-morrow, which, in respiration, is deposited upon the mucous membrane of the respiratory passages of those who breathe the air loaded with it"

In a circular just issued by the State Board of Health of Massachusetts, indorsed and circulated by the Boston Board of Health, emphasis is made upon the danger arising from the dissemination of the bacilli of tuberculosis I quote briefly "Consumption is the most destructive disease of New England, the number of persons dying annually from this cause in Massachusetts alone, amounting to nearly six thousand The disease is infectious The chief danger exists in the expectoration of the sick, and if this expectoration is destroyed, little danger is to be feared Consumptives should be instructed not to spit in open places, "nor in the streets" Remember, the sputa must never be allowed to dry One of the most common forms of the dissemination of consumption is by the respiration of street dust, never free from infectious material"

Dr George Baird, discussing the subject of "Sanitation in Street Paving," writes as follows "Should sanitarians be consulted by municipal authorities in reference to the material used for street paving, and the manner of laying it so as best to protect the lives and health of the citizens?" To this question there should be only an affirmative answer The macadam road, the cobble pavement, the wood pavement in its various forms, and the granite pavement have all been found more or less objectionable from a sanitary standpoint The macadam, with its rapidly worn surface and its clouds of dust, carrying disease germs in them, the cobble pavement, with its noise and innumerable pockets, furnishing lodging places for decaying animal and vegetable matter, the wooden pavement, decaying in a few years, and absorbing urine of horses and foul liquids of all kinds which are poured out upon its surface, and the granite, with its noise far exceeding the cobble, its slippery surface when worn, and its open crevices between the blocks, permitting liquids of all kinds to pass down and pollute the street surface beneath, are each and all of them subject to adverse criticism "

The least unsanitary of all pavement must be impenetrable, present a surface easily cleaned and be kept as free as possible from dust and dirt The important questions of expense, durability and economy of repair, are the determining factors in the selection of pavement material In streets subject to the heaviest of teaming, where the weight of the constantly passing load, the minimum resistance offered to traction are important desiderata, it is necessary not alone to have a firm foundation, but also of the first importance to have a surface highly resistant to wear For this purpose, granite blocks are in much favor But they should be put down by the pouring of hot asphalt or some of the tarry products, filling the interstices In this way we have an unyielding, comparatively even-wearing surface, giving a good foothold for the horses' feet, and at the same time easily cleaned and impenetrable to fluids Although noisy and expensive, it is perhaps the best adapted for service in this class of streets

In the residence portions of a city, such pavement is undesirable, and at present some form of macadam is more commonly used In the form of macadam, with or without the Telford foundation of large stones, crushed rock has been used as a road covering in Europe and America for nearly a century Macadamized surfaces become more or less rapidly worn, the wearing is produced by the pulverization of its surface, which, when dry, is a dust more or less mingled with vegetable and animal matter When wet, it is mud This surface is costly to keep in repair and is cleaned with much difficulty In fact, it can never be freed entirely from objectionable material

Asphalt, on the contrary, forms an impenetrable surface, is easily cleaned and can be kept clean at small cost It is comparatively noiseless, is durable and can be easily repaired Its first cost is greater than macadam

From a paper published the present year by the Renssellaer Society of Engineers of Troy, N Y, for the use of professors and students of the Institute, by J M Howard, upon "Natural Asphalt and Its Compounds," I quote "The civilization of cities can be gauged by the condition of their streets The suppression of noise and dirt, made possible by asphalt pavements, in a great measure determines the character and progress of a city Jan 1, 1894, the total asphalt street pavements of European cities are as follows London, twenty-four miles, Paris, twenty-six miles, Berlin, eighty three miles

"In the United States and Canada, Trinidad asphalt 911 miles, asphaltic limestone and other asphaltic materials, 51 miles The volume of this industry is measured by the fact that the one branch, asphaltic paving, is found in more than ninety-one American and fifty-five European cities This means an investment of at least fifty-five millions of municipal funds and a working capital, if combined, of $15,000,000 "

A publication upon asphaltum in 1893, from the United States Department of the Interior, by Richardson and Parker, under the head of the durability of asphalt pavements, gives the following "With the best materials, combined and laid with the greatest skill, where traffic is of the ordinary character, and the street not too narrow, so as to confine the wheels to ruts, the life of the pavement should be fifteen years There are surfaces in existence today which are of that age, which have had scarcely any repairs and seem to be good for many years to come Such a pavement can be seen in front of the Arlington Hotel on Vermont Avenue, Washington "

Washington is to day known as the best paved city in America Its seventy miles of smooth, durable asphalt afford roads which for comfort, convenience and economy of transit are unequalled

Asphalt offers a smooth and uniform surface, which reduces the force of the traction and thereby effects an economy in transportation, and at the same time adds to the comfort of every person who rides in a carriage, in its cleanliness, containing no joints to collect street filth and give it off in dust, and no vegetable matter to decay and poison the air with noxious germs, in its noiselessness, which relieves the racket and roar of great cities, so trying to the nerves

These excellent qualities are not denied by any one. Two defects have been alleged against it 1, that it is slippery, 2, that it is not durable Neither allegation is founded in fact Careful observations by competent engineers have established the fact that under ordinary conditions of weather the number of accidents to horses from falling is greater on stone than on asphalt pavements

The great cause of horses slipping on asphalt pavement is the foreign material which may be allowed to remain on it For example, the slipping of the pedestrian who inadvertently steps upon a banana peel left upon the sidewalk

When in Paris in 1890, I examined carefully a piece of roadbed on one of the public thoroughfares, laid in 1812, probably the oldest asphalt pavement in existence The surface was even, without cracks. When put down, it was eight inches thick, and the constant service of nearly eighty years was said to have reduced its thickness less than one inch

In Hamburg, I was shown an excellent piece of asphalt pavement, which was put down in 1840 I might refer to our own experiences in Boston, but they have not been as satisfactory The asphalt first laid here was defective, improper material being used The trouble is in the asphalt sheet being quite too thin The more recent paving with the asphalt has been much better constructed

The repairs to such a pavement are really quite difficult to make "If the day is cold when they are undertaken, the old surface is in a contracted condition, while the new material put in, being in a heated condition is considerably expanded If the patch is left perfectly level with the surrounding pavement when finished, it soon settles and forms a little depression In hot summer weather the expansion of the surrounding pavement has a tendency to push this patch on every side and make it rise above the surface surrounding it, causing a ridge In making these patches it is customary to cut through the asphalt coating with heavy chisels, so that the part to be repaired can be removed Then the hot mixture of asphalt and other materials is rammed into the place and tamped and rubbed with hot iron implements until it is apparently united with the old coating around it and the foundation below It requires considerable skill and experience to do this well, and even the best men fail at times Recently a special machine has been designed to facilitate and improve such repairs which has been highly recommended in several cities where it is used It consists of a sheet metal tank containing gasoline and mounted on a pair of wheels so that it can be easily moved from place to place Behind the tank is a collection of burners so arranged that when the vaporized gasoline is forced through them by means of a small air-pump attached to the tank, the several jets of flame warm up the surface of the asphalt below them The material becomes as soft as when first laid, and while in this condition enough of it is taken off from the injured portions by a hoe to secure a clean fresh surface On this, fresh asphalt is rammed and rolled to the desired surface, and as the old and new material is at about the same temperature when the tamping begins, it has been found possible to weld the whole together into a homogeneous mass Another advantage of this method of repairs is that asphalt is removed from half an inch to an inch in thickness so that not only is less new material used, but the thin coating is more easily rolled and tamped and less likely to contract and leave a depression "

The present month Hon E P North, in charge of the street paving of New York city, presented his report for the paving to be accomplished the ensuing year It includes 109,025 square yards, at an estimated cost of $780,100 Coming from such an authority and as the result of long study and observation, I have thought it advisable to quote from the report quite freely

"This proposal is in conformity with your general instructions to expend the public money for the greatest public good by providing asphalt pavements in the poorer and more densely populated portions of the city and on streets that are likely to become great thoroughfares The larger sum is expended for asphalt pavements, instead of granite and trap pavements, and the money is expended either in the service of the poorer portion of the community, or in the service of all by increasing the facilities for communication between all parts of the city

'Somewhat over 63 per cent of the pavements relaid since and including 1889 have been granite or trap pavements, and rather less than 37 per cent asphalt Of the 1,196,079 square yards of asphalt pavement now laid in this city, between 60 and 70 per cent has been laid in the area bounded by Fourth Street on the south, Third Avenue on the east, on the west by Seventh Avenue to Fifty-ninth Street, and thence north along the Hudson River These boundaries, somewhat roughly, include the habitations of the wealthier portions of our population

"Most of the asphalt in this region has been laid in short lengths, which do not average, in the cross streets, a block and a half long, there being over sixty separate pieces a full block or less in length Some of these are without connection with other asphalted streets, so that much of the work done in this area has been a matter of luxury and convenience to those living on such streets, and is not calculated to appreciably affect either the death rate or the general health of the city, and its utility where it can not be incorporated in a general scheme is practically confined to the immediate vicinity in which it is laid

"In the project now submitted, the only region favored is that occupied by our wage earning population, and aside from this, nothing has been incorporated that does not serve large areas and all classes of people The principle has been to continue the very necessary work, in a sanitary point of view, commenced under our predecessor, mainly through the efforts of your consulting engineer, Mr Towle, of asphalting the streets in the overcrowded districts east of the Bowery, to which is added the populous regions about the Five Points In addition to this, streets have been selected for asphalt pavement that will extend the present lines of transportation and open routes across the city which will cheapen the delivery of goods and give comfortable access to some of the more important ferries

"Two and four tenths per cent of the proposed work is south of Chambers Street, in the business part of the city, 40 6 per cent is in regions east of Centre Street and south of First Street, and 57 per cent is devoted to routes of distribution Of this only 22 3 per cent is in that division of the city which contains between 60 and 70 per cent of the asphalt now laid So that in fact 77 7 per cent of the proposed new work will be where most needed for sanitary purposes, in the lower parts of the city

"It seems that as a financial measure there is sound economy in replacing our wornout pavements with asphalt It is, however, as a sanitary appliance that an asphalt pavement presents the greatest value It is nearly a non absorbent, is free from cracks that offer lurking places for disease germs, and can be thoroughly washed whenever it is thought advisable

"Leaving the streets that swarm with the children of our poorest population paved with rough stones, the interstices between which are filled with disease-breeding filth, while the streets bordering on Fifth Avenue are paved with asphalt, does not make for the greatest good to the greatest number, and in case of a serious epidemic the practice imperils the health of the entire city "

The attention of the public is being drawn more at present to the proper construction of roadbeds than perhaps ever before Previous to the development of the railroad system in the United States, however, it is interesting to note the engrossing attention which former generations gave to the improvement of internal intercommunication throughout the older States It was well understood by them that good roads are desirable on the highest economic grounds, not to speak of their value when judged from the esthetic point of view The revival of this spirit has been especially noteworthy in Massachusetts during the last few years, largely brought about by one of her indefatigable public spirited citizens, Col Albert A Pope, seconded by his cohorts of bicyclists

Massachusetts has a State Highway Commission, appointed for the supervision of the construction of new, and rebuilding of old roads Her appropriation of last year was expended in making short pieces of thoroughly good country roads, in selected parts of the State, in large measure as object lessons for instruction This year her Legislature appropriates $300,000 for the further prosecution of this popular work

The attention of scientists all over the world has been directed anew to the development of improved methods of road building, and Congress has recently made an appropriation for the investigation of this subject, in order that information upon the best methods of road making may be widely discussed and disseminated

Laboratory work is being carried on at Harvard

University upon the value of the different kinds of stones best adapted to road building

In Massachusetts, the towns are taking up the subject and the dissemination of the good work in this important branch of internal improvements is thus permeating the entire State This work is not limited to Massachusetts, since a number of the States have already passed new road laws, and the subject is being popularly discussed throughout the entire country Especially in urban life is the sanitation of the street of the greatest importance, and it seems to me most fitting that the scientific men of the country should exercise a molding influence upon the development of this great public improvement I have therefore deemed it fitting to ask the attention of the members of the Section in State Medicine of the AMERICAN MEDICAL ASSOCIATION to this subject and to give it due discussion and deliberation

The subjoined letters are of interest and value They represent purposely, several of our larger cities in widely varying latitudes with marked variations of climate

CHIEF SANITARY INSPECTOR'S OFFICE,
ATLANTA GA, July 23, 1894

HENRY O MARCY, M D—*Dear Sir*—Your letter of July 20 to hand and in reply will state that I consider the "asphalt paving" the prettiest paving for your avenues in Boston, it is easily kept clean, is noiseless, and would give entire satisfaction Any further information I will gladly furnish

Very respectfully, THOS L VEAL, Chief Inspector

CITY SURVEYOR'S OFFICE
MONTREAL, CAN July 23, 1894

HENRY O MARCY, M D—*Dear Sir*—I am in receipt of your letter of July 20, asking me for my opinion as to the best pavement to be used for a residental street with light trafic thereon I would certainly recommend Trinidad asphalt We have had Trinidad asphalt laid by the Warren Scharff Co of New York, and it has stood this climate for seven years with heavy trafic

Yours truly,
P W ST GEORGE, City Surveyor

OFFICE OF CITY ENGINEER,
SAVANNAH, GA, July 23 1894

HENRY O MARCY, M.D—*Dear Sir*—Your note of July 20 came to hand and contents noted The city of Savannah has a great many streets paved with asphalt and it gives entire satisfaction The Warren Scharff Paving Co has done most of our work It stands heavy traffic as well as light

I am yours respectfully,
JOHN FITZGERALD, Sup't Streets

DEPARTMENT OF PUBLIC WORKS,
CHICAGO, July 23, 1894

HENRY O MARCY, M D—*Dear Sir*—Your favor of July 20, relative to asphalt pavement received We have 16 65 miles of sheet asphalt streets in this city This class of improvement when well laid has given general satisfaction on residents streets in this city Dearborn Avenue, which was improved with asphalt eleven years ago, has just been repaired at an expense to the city of $570 It is now in as perfect condition as it was when originally completed

Yours very truly,
JOHN MCCARTHY,
Superintendent of Streets

DEPARTMENT OF PUBLIC WORKS, COMMISSIONER'S OFFICE,
No 31 CHAMBERS STREET, NEW YORK, July 24, 1894

HENRY O MARCY, M D—*Dear Sir*—In answer to your inquiry of July 20, regarding experience in this city with asphalt pavements, I beg to say that the experience of the last six years has shown good asphalt to be the very best pavement for residental streets and on streets used for pleasure driving, provided the grades are not too steep, that is, not to exceed 4 in 100 It has many advantages over macadam or stone, in being noiseless, impervious to liquid filth, easy to keep clean, and about one fourth less expensive to maintain We have now in this city fifty five miles of asphalt pavement, nearly all in private residental and tenement-house districts

Very respectfully,
MICHAEL T DALY,
Commissioner of Public Works

STREET DEPARTMENT, STREET COMMISSIONER'S OFFICE,
ST LOUIS, MO, July 24, 1894

HENRY O MARCY, M D—*Dear Sir*—Answering your favor of July 20, would say that we have a little over nine miles of asphaltum streets in St Louis, and they are giving entire satisfaction to the tax payers We have not confined the use of asphaltum streets to light trafic alone, as we have roadways here paved with that material over which from 5,000 to 7,000 vehicles pass daily with loads of from 1,000 to 10,000 pounds Personally and officially I am in favor of asphalt for paving all classes of streets

Very respectfully,
M J MURPHY,
Street Commissioner

PHYSICAL EDUCATION IN CHILDHOOD AND YOUTH A MEANS OF PREVENTING DISEASE

Read in the Section on State Medicine, at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md May 7-10, 1895

BY C F ULRICH A M, M D
WHEELING, W VA

The time is rapidly approaching when the prevention of disease will be regarded as of infinitely more importance than its cure The medical profession, although not absolutely pure, is *par excellence*, a benevolent and unselfish body Where will you find a set of men who do so much for the general welfare, although their efforts tend continually to diminish their own profits and curtail their own income, as the medical brotherhood? Herculean labors have been performed by the fraternity to improve the water supply of our cities for the purpose of preventing disease and diminishing the death rate Jenner's discovery, aided by a highly improved system of quarantine, has so diminished the ravages of variola that it is no longer a terror to any community, and its approach is not dreaded as in times past Cholera has not the same terrors for us now that it had in days of yore Although Professor Koch's discovery of tuberculin was prematurely launched into the world and has consequently disappointed the expectations of its friends, it is only a question of time, and not a very long time, until this discovery is supplemented by others that will enable us to come as near stamping out that fatal scourge as we have the smallpox Diphtheria has hitherto baffled our efforts, and continued to slay its thousands But the discovery of antitoxin bids fair to remand that much dreaded disease to the list of those which we have under our control The unselfish physician is persevering in his unfaltering efforts to prevent disease, or at least to soften its asperity and shorten its duration, notwithstanding this work seems to go directly against his private interest, in removing to a great extent the source of his income

There is, however, one prolific source of disease, or at least tendency to disease, of which I have heard very little mention made in medical societies nor have I read anything about it in medical journals I refer to the neglect of physical training in childhood and youth In the earlier ages of the world, when war and the chase formed the principal occupations of the human race, there was not so much need of admonition on this subject The male child, in its tenderest years, was taken in hand and instructed in running, leaping, hurling the javelin and bending the bow, to prepare it for the life it was destined to lead when it reached the period of manhood The barbaric tribes knew the necessity of health and strength in the mother to enable her to bear healthy children. They accordingly trained their female infants in the exercises that were necessary to prepare them for the duties devolving upon them in womanhood. In our modern exotic civilization, the idea of the necessity for such early training seems to have been lost sight of. Intellectual culture, money-making and general business habits seem to occupy the entire attention of our people at the present time.

A child inheriting a weak constitution from its parents, whose physical development has been neglected by parents who devoted themselves exclusively to intellectual or financial pursuits, or to fashionable follies, is sent to school to be crammed with evanescent knowledge, instead of having its physical organization developed and trained to endure the hardships of life, and its intellectual faculties drawn out to enable it to think for itself and acquire the necessary education after its school days are over. This child is required to sit at the school desk from four to six hours every day, trying to absorb knowledge, perhaps to be forgotten in a few months after leaving school. There is not even any supervision exercised over the position of the child's body, and frequently the naturally weak child comes out of school with stooped shoulders or lateral curvature of the spine. The general circulation not being promoted by judicious and methodical training, the child is pale and flabby, drags itself along like an invalid of long standing, loses even its ambition to excel in the intellectual pursuits that first inspired it, and sometimes becomes a burden to itself and its friends.

If the child is of an active disposition, fond of physical exercise, it will sit during school hours fidgeting about, anxious for the recess or intermission to be announced. Then it will rush out, leap, run and bound like some wild animal escaped from the cage, perhaps doing itself an injury. There will be no system about the exercise, some organs being worked too much and others not enough. The body will be overheated and the muscles tired out. The body is not refreshed and the mind not rested. The blood that has been overheated will cool off too rapidly and a revulsion will set in. The muscles that have been overworked will be tired out and sore, being relaxed and unfit for duty the next day. The heart, that great machine that keeps the body alive, as well as the mind, by supplying the necessary nutriment, being overexcited, gradually loses its strength, becomes flabby, dilatations and valvular insufficiency are established. The buoyant health and strength that this child started with, which was perhaps the only heritage it received, is lost by mismanagement, the foundations of life sapped, and its future prospects destroyed.

Take, now, another class, those who, although not robust but rather of a delicate physique, are not suffering from any constitutional debility. We will suppose these children to be of a studious nature, possessing a large and active brain, with no particular desire for physical exercise. Such children go to school, sit in their confined seats, devoted to their studies. When recess is called they feel a bodily languor that makes them feel indisposed to move about and exercise their limbs. They prefer to remain in the schoolroom and study their lessons. When school is dismissed they drag themselves languidly along the street to their homes. They do not engage in the sports of their companions for they are always tired. They are pale and thin, their flesh is flabby, the heart beats feebly, the brain is always in a state of excitement, and frequently a hectic flush is seen on their cheeks.

Let us now look at the child that has been systematically trained in all those physical exercises that develop the muscles without breaking them down, that strengthen and regulate the nerves without unduly exciting them, that cause a regular and healthy circulation of the blood without overheating it or allowing it to stagnate. If such a child has inherited a good constitution this course of training will still further improve it. The child of weak constitution, by such a course, will be strengthened and improved until its cachectic condition has almost disappeared, although, of course, it is not as robust as the one that began life with an inheritance of good health.

Now let us compare two children that are stricken down by disease, one whose physical training has been neglected, whose condition is as I have described above, and one whose physical forces have been well developed by a judicious course of training. Let us suppose that pneumonia is the disease that has attacked these two children. Which one will have the better prospect for recovery? The strong child has, by skillful training, developed all its organs, especially the lungs, which, by continual exercise under the supervision of a competent instructor, have been well developed and are consequently able to throw off the products of the disease, or even resist the attacks altogether, while the child whose physical education has been entirely neglected, who has been allowed to sit bent up in the schoolroom, having little or no play of the lungs, either not going out on the playground at all, or endeavoring to play with the stronger, more robust and more active children, overdoing itself and leaving its lungs in a worse condition than before, has to succumb to the terrible disease.

Take a case of typhoid fever and see how the two will fare. In this, as in other fevers, the heart has to double, treble, or even quadruple the work that is required of it in health. Now which heart will be able to accomplish it without coming to grief? You all know it will be the heart of the strong child, the one that has enjoyed good physical training and has been strengthened by a judicious and well regulated course of exercise, while the weak and flabby heart, with its imperfect valves, its thin walls, its dilated ventricles, which is scarcely able to perform its work when no disease is present, is sure to fail when double, even quadruple the labor is required of it. In typhoid fever we have a diseased condition of the intestines near the ileocecal valve. Frequently, the coats of the intestines in this region are very much thinned. During the period of convalescence, when the patient begins to eat, owing to the slow digestion gases accumulate in the bowels, rupture of the intestinal coats takes place and death ensues. In which patient is this more likely to occur? In the one whose organs and tissues, owing to a good physical development, are all in a sound and healthy condition, able to endure a strain, to throw off the products of the disease, to resist the encroachment of the destroying malady, or in the one who is weak, the muscular coat of whose intestines has lost its peristaltic power, rendering it unable to carry off the products of the disease which are thus permitted to remain stationary, preying still farther on the tissues until they become thin, unelastic and friable

Consider another class of diseases, a product of our modern civilization, of which the ancients knew nothing, nervous affections I presume no one will hesitate to decide which class is most liable to these affections The man or woman who has been properly trained, the intellectual and physical powers having been developed *pari passu*, whose organization is well balanced the brain with its dependencies, the nervous system, the muscular system, with its locomotive powers, the alimentary tract, the assimilative apparatus as well as all the emunctories in good condition as a result of a sensible course of physical training in childhood and youth, will surely be less affected by nervous disorders and their concomitant pain and misery than the pale, weak, flabby being that is in every respect the reverse of the one I have just described

It is hardly necessary to say anything as to the causes that render such persons amenable to all kinds of nervous diseases, for I am sure every one of you can see it at a glance When one of these nervous excitable creatures is attacked by fever, no matter what may be its character, it is easy to foresee the result There is no power of resistance and the patient must succumb Should this person, nevertheless, survive the attack, he or she would remain a wreck and life would be a burden It is unnecessary to multiply instances as the matter is self-evident, and every physician, yes, every intelligent layman will see it as soon as it is suggested to him ,

I remember when I was a boy, the men in my native land, Germany, were not very robust, because they devoted themselves to intellectual pursuits without giving proper care to the condition of their bodily functions and powers About forty-five or fifty years ago, Father Jahn, as he was popularly called, organized gymnastic societies, known as the Turnerbund The young men, with great enthusiasm, affiliated with this association Teachers were appointed, regular systematic instructions were imparted and the youth of the period became more and more athletic When Prussia assumed the lead in the German confederation, thorough military drill was superadded to the gymnastic training, and the German people became a nation of athletes, recovering the reputation for strength and size of limb they enjoyed in the days of Tacitus, the ancient Roman historian When, after an absence of half a century, I revisited my native land I was astonished to find so large a proportion of the population large, strong and athletic Nor had they suffered in intellect by this physical growth, as was very plainly shown by their artistic, scientific, literary and educational display at the World's Fair in 1893

Having now shown, I hope, to your satisfaction, the importance, yes, the absolute necessity of early physical training, and its remarkable influence on the health of, not only the present, but also future generations, and its great bearing on the physical and intellectual welfare of the human race, I will close these remarks by expressing the hope that our sanitarians will take the subject into consideration and see if something can not be done to promote a wise system of physical training, in connection with our intellectual education, which would certainly be an excellent safeguard against deterioration, both physical and intellectual, and would surely do more to advance our people to the highest degree of culture than the present system of cramming the brain with evanescent knowledge, and allowing the physical powers to dwindle away, a prey to the ravages of disease and death According to the laws of heredity and the survival of the fittest, the time would not be very far distant when the earth would be peopled with a healthy, strong and intellectual race, among whom sickness, suffering and premature death would be the exception and not the rule

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THE HYGIENIC AND SCIENTIFIC VALUE OF EXAMINATIONS OF THE EYES AND EARS OF SCHOOL CHILDREN

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association at Baltimore, Md , May 7-10 1895

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Much work has been done in the last half century for the improvement of the hygiene of the school, with the result of formulating with much precision the best arrangement of the school building as regards site, plan, ventilation and illumination, and much of this is continually being put into practice with ever-growing advance in these matters of the school surroundings The parallel and equally important field of educational methods has also been well worked by the pedagogues and others in response to the protest as to overburdened pupils, and while the standards of requirement have advanced and educational forcing has continued unabated, it is probable that the resulting damage has been materially lessened More sweeping application of the rules generally accepted as requisite, is alone needful to place this aspect of the matter in fairly satisfactory shape

Forced into rather wholesale dealing with their scholars by large classes and the pressure of changing methods of instruction, the teachers as a class are yet sedulously careful of the health of their pupils and often nobly self sacrificing in their efforts to save them from any injury in the educational process Were they enabled to make more discriminating application of preventive care to the cases requiring it, much more might be accomplished through the agencies already more or less practically in existence The conditions surrounding the scholar have greatly improved, yet near-sight and many more certain evils have been little if at all decreased

The difficulty is not so much with the machine methods as with the material submitted to them The hygiene of the school may be perfect, yet that of the scholar very poor Collective methods have their value—often great, but the application to individual cases may not only fail of good, but even be productive of much injury Perfectly hygienic school surroundings with moderate demands upon the eyes may save the majority of pupils from trouble, palliate the defective relations of others, and yet spread disaster among a notable minority Very injurious home surroundings undermine the advantages of the most perfect sanitation in the school, and can be met only by personal examination of the scholars and the exclusion of the unfit from school tasks Preventive measures can be only partially applied to the whole school population, while their application to the individuals most in need, will generally come only after some damage has become irretrievable, if we wait for the conditions to force themselves into notice

To the oculist it is needless to specify what are the evils to be thus combated, for his practice daily exemplifies them most sadly To the general practitioner it may be well to explain that the "myopia in the schools" of which he may have heard much, is but one element and not the most important Would-be evolutionists may claim that the near sight is an adaptation of the eye to the tasks of its civilized environment On the other hand, the inflammatory intra ocular conditions such as cause myopia may wreak their ill effects in other ways and gain serious headway before the vision is affected or unmistakable evidence of injury appears to any one except the ophthalmoscopist To his methods, alone, will appear the optical defects of the eye which frequently are the cause of trouble and demand correction by glasses Any medical man or an intelligent layman can quickly learn to make the rest of the tests, just as Dr Thomson has arranged for examination of the railroad employes by non medical clerks These tests are as really outside of the habitual work of the general practitioner as of the school teacher, and it is merely a question of the individual, as to how perfect or how worthless may be the results obtained The skillful use of the ophthalmoscope constitutes the acme of the difficulty of the work, while it is also its most valuable part, and occasions the most crying need for the ophthalmic expert

It will naturally be objected that no reasonable amount of labor will suffice for such examinations as I advocate—they cost too much time of both scholar and examiner I have elsewhere shown that such an investigation of the eyes and ears as seems to me requisite, if not indeed adequate, to inform us of the condition of these organs of our school children, costs an average of five minutes apiece, since from twelve to twenty per hour can be studied and recorded by an expert examiner, unaided—while efficient help can double the number A dozen hours a week devoted to this work instead of to the dispensary or hospital service to which most oculists devote that much time, would suffice for examining with a thoroughness as great as many men use in their private practice, from one hundred and fifty to two hundred pupils, so that in the months before and after opening of the schools, 1,000 would be readily studied As the conveniences for the examination can generally be arranged at the school, the loss of time to the scholars ought to be unimportant The entire study can be made by artificial light, as I have preferred to do, except for the color tests, and it may suit all concerned to work outside of the school hours

There are men in most communities, capable and willing to make such investigations even without compensation, if invited to do so, while most school boards are able and should be willing to pay an honorarium of, say, $100 for each thousand examinations thus made The main difficulty really lies in the probability of professional jealousy, for there are many men whose sordid motives seem to compel them to attribute the same to any others who might in any such way come prominently before the public Let those of us who earnestly desire genuine advance in these matters strive to place and keep this in its proper light, or we may find that no self respecting men will be willing to undertake such labors, much less to inaugurate them Absolutely disinterested investigators can often be found, who will undertake the work from their sense of duty to the community, and when these are lacking, there will be found men who will consider the time thus employed fairly repaid by the absolutely legitimate recompense offered If the report on each case is made only officially to the school authorities, and through them impersonally conveyed to the parents, the opportunity for self-aggrandizement will be largely taken away from any so inclined

Finally, yet fundamentally, as to the method and aims of the examination The perfection and safety of the visual function depends upon the acuity of vision, the accommodative power, the muscle relations and the health of the retina and choroid Defects of refraction come in as causes of disturbance of each and all of these, just as do questions of school and home tasks, prints, illumination, seating, ventilation, etc Perfect function is compatible with marked refraction errors, if the physique be good and the eyes not greatly abused, as witness the proportion of eyes reported comfortable when defect of refraction is almost universal Given a notable error of refraction, and the margin of safety is surely lessened, if not overstepped, and functional disturbance, if not positive damage is likely to result even under conditions more ideal than are likely to surround our school children Hence the importance of detecting the defects of refraction present, as well as the mere sharpness of vision for far and near, since good vision and comfort can hardly be maintained under the handicap of ametropia How small a defect is noteworthy, depends largely on the general vigor of the individual and the health of the interior of the eye This last can be decided only by the ophthalmoscope, which in expert hands can at the same time give us the surest ready estimate of the refraction and its errors Minute record should be made and preserved of all these details for future comparison, but it is better to simplify the report made to the school authorities for transmission to the parents, merely stating the vision, any notable error of refraction and any need of prompt medical attention The fuller technical record, however, should state the date, school and class, the name, age and sex, the general and ocular health, the visual sharpness, muscle relations and choice of astigmatic lines at a distance for each eye separately, the nearest point of distinct vision, the muscle balance and color sense of each near by, the refraction as measured by ophthalmoscope, retinoscopy and, perhaps, the test lenses, with the condition of the eye grounds To this I have added the record of the inspection of the drumheads, the anterior nares and the pharynx, and of the tests of hearing for whisper and conversational voice and for the tuning-forks by air- and bone conduction in Weber's and Rinne's tests An examiner who has practiced independence of tongue depressors and aural and nasal specula, can usually dispense with them in these studies, and while posterior rhinoscopy would be a most valuable aid, it has been omitted, since such introduction of instruments as it necessitates is often alarming to the ignorant or nervous, and might easily awaken serious opposition

These determinations and records can be satisfactorily made by an expert examiner in from four to six minutes for each pupil, and with good assistance in about three Each detail can be fairly reliable in case so far as known occurring in the person of Surgeon Brannan, whom they had made quarantine officer The next thing the Marine-Hospital Service did was to invade the territory of the sovereign State of Georgia and take possession of Brunswick under the plea of inter-State quarantine, and with the cordon and the camp of detention undertook to confine the epidemic to the stricken city Yellow fever spread to Jessup before the cordon was drawn around Brunswick But why was not Jessup also subjected to the potent coercion of the cordon? If the cordon prevented the spread of yellow fever from Brunswick, what prevented its spread from Jessup?

I have given this brief sketch of the history of the quarantine achievements of the general government, with the object in view of calling special attention to what I regard as a very serious menace to the authority and usefulness of our State health authorities—to the danger, namely, that all the quarantine functions which naturally belong to the State health authorities may be absorbed and monopolized by the Marine-Hospital Service, or by some other agency of the federal government A few of the large cities like New York, or New Orleans, or Boston, will resist the innovation for a long time, but there is danger that smaller ports will yield speedily, and that the large ones will finally also give way

Some plausible reasons may be urged in favor of national sea quarantine Quarantine is an incident of commerce, and it would seem to be the natural solution of the problem that the power which regulates commerce should also regulate quarantine The great objection to this solution of the problem of sea quarantine is that it involves a central bureaucratic administration that is necessarily expensive, necessarily arbitrary, and necessarily based on insufficient knowledge of local circumstances and conditions It would not be difficult to frame a quarantine system in which, by the thorough going cooperation of national and State authorities, most of these objections could be obviated

There are just three places in which to oppose the dissemination of migrating pestilences in connection with the transportation of passengers, immigrants, and merchandise The first of these is at the port of departure in the foreign country The second is at the port of arrival in this country The third is at the place of destination in the interior of the country, at the end of the journey The quarantine of the foreign port, including the inspection and disinfection of ships, passengers, immigrants, and merchandise, and a general system of bills of health and cable notification when anything is wrong—all these things should be in charge of officers of the national government And there should be at suitable places along our sea coast, refuge stations for dealing with infected ships, crews, passengers and cargoes, and these refuge stations should also be under national control

Inside of the refuge stations, there should be an inner line of defenses in the shape of local inspection stations at our various seaports, and these should be in the hands of the local or State officers

Then, from time to time, when in spite of all these defenses some epidemic pestilence gets into the country, we will need to institute land quarantines, railroad quarantines, local quarantines according to circumstances, and these should be under the control of the State and local authorities If the pestilence swells beyond the power of control at the command of the State and local authorities, then the national government should come to their assistance, not to push them aside as was done in Brunswick, but in the way of supplement and cooperation

This is in outline the theory of our present quarantine system—the system that has been developed during the last twenty years I can imagine no better system if it is carried out in its real spirit and purpose But it now stands in danger of being marred and outraged by the encroachments of the Marine-Hospital Service under the acts of 1890 and 1893—said Service not being satisfied with the control at foreign ports and on the high seas and at the refuge stations, but seeking also the control of the inspection stations and of internal quarantines

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TUBERCULOSIS AND ITS PREVENTION

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md , May 7 10 1895

BY CHARLES E WINSLOW, M D
LOS ANGELES, CAL

Living, as I have, for the past few years, in a region of the Rockies, where hundreds of consumptives annually come to breathe the pure invigorating atmosphere, hoping to regain lost health and wasted strength, my mind has constantly turned toward the peril to our inhabitants of contagion from these invalids Although in our high altitude the risk is greatly diminished, still "how to prevent the danger" has been an ever recurring question, and when your chairman kindly invited me to prepare a paper on "Preventive Medicine," my thoughts naturally turned to this subject

With no space for argument in favor of statistics and cases brought forth by advanced thinkers in their researches, I simply accept their conclusions based on their proofs of facts My ideas may be crude and my theories familiar, still if they stimulate action along the line of duty that is before us, as earnest and intelligent workers for humanity, I shall accomplish my purpose

For thousands of years, it may be from the time Adam and Eve bade adieu to fair Eden, to battle with sorrow and death, consumption has been the great enemy of mankind Men of thought and action have, for the sake of their fellowmen, stood up and fought, with the best weapons at their command, and failed to conquer this great destroyer Here and there down the ages have been seen the beacon fires of progress, until in 1892, Koch kindled a blaze that illumined the whole world Then the clouds of ignorance lifted, giving us a vision of the boundless realms of preventive medicine While the advance in curative medicine has been wonderful, the strides made in preventive medicine have been miraculous, and yet we are only on the border line of the Land of Promise, and there is still room for discoveries in preventive medicine An earnest seeker of dauntless courage may achieve brilliant results in this line of work that will add new luster to our glory as physicians, and longer life to humanity To day, men are beginning to judge a physician's success by his ability to prevent as well as to cure disease

The field is broadening As we gain knowledge we increase in strength We need men of strong character and keen intellect to fight the battle of life against disease Ours is a peculiar warfare, for not only the enemy, but those of our own household must be overcome I take for granted that most of the men in this Section believe that tuberculosis is transmissible and that it comes from living bacilli There are some honest doubters to all great truths and this is no exception

Tuberculosis is by far the most destructive disease of the human race, outnumbering in its death rate, war and pestilence In the United States every twenty-four hours, 110 human beings die of tubercular disease While this great ASSOCIATION is in session, over two thousand five hundred men, women and children, through the agency of this king of terrors, will fill consumptives' graves, and homes all over this land will be in mourning for dear ones whose lives have been cut short by a disease that could have been prevented

To day, pulmonary tuberculosis is more widely diffused by infection from sputum than by any other means The sputum becoming dry and in the form of dust being carried far and wide, is inhaled into the lungs Wherever it finds good feeding ground it makes a home Scientific investigation has shown that a patient in advanced pulmonary tuberculosis may give off millions of bacilli in twenty four hours Koch found the dust taken from the rooms occupied by consumptives produced infection in two thirds of his experiments, others have shown that the sputum retained its virulence as long as seven months If this be true, and the sputum of tubercular patients, teeming with bacilli, is allowed to become dust, to be carried here and there, inhaled by hundreds of people, settling upon fruit and upon water, to be eaten and to be drunk by hundreds more, is it any wonder that phthisis pulmonalis is no respecter of persons but spreads to the high and the low, the rich and the poor, the young and the old, infecting whole communities once healthy? A common way of infection is through the alimentary canal, by the use of milk from tubercular cows, and meat tainted with tubercular germs, while candies, fruits and vegetables exposed for sale, becoming infected by bacilli laden dust settling upon them, may spread the disease With examples too numerous to mention, of the spread of the contamination from husband to wife, brother to brother and friend to friend, knowing the consumptive taints the very air we breathe, the food we eat and the water we drink, how can we, members of this great human family, keepers of our brothers, sit idly by and make no effort to save them?

Among intelligent reasoners the belief that it is an inherited disease is fast passing away, until now we rarely hear the statement Though one does not inherit tubercular disease, he may inherit the predisposition to consumption, and his lungs form good soil in which the seed will thrive With these facts before us, proved by a great cloud of witnesses, we are enabled to fight the disease on an intelligent basis, first by destroying the vitality of the seed, then by strengthening the soil till the germs find no nutriment We have no hidden foe to fight, but one whose methods are known We may have a knowledge of the best way to prevent infection, still, unaided, we can do nothing We must have an intelligent people roused, until city, State and nation are compelled to adopt stringent measures for the protection of its inhabitants from this direful disease When public opinion is educated to the full realization of the danger, and awakened government enforces the laws, we can stamp out this greatest enemy of mankind, or, at least, so control it that it will cease to be a scourge to humanity

Sanitation and disinfection have given preventive medicine a prominent place among the sciences To-day it comes nearer giving specific treatment for this class of diseases than does curative medicine It not only prevents disease in the present generation but it affects posterity In this age of enlightenment, disease is no longer considered a visitation of Providence but a punishment for neglected laws of health The people should be made to understand this, and the physician's duty is to instill into their minds the rules of good health, enabling them to save millions of lives He must show them that although this plague of plagues causes more deaths than all other epidemic diseases combined, still it can be controlled He should instruct them in their daily intercourse, and teach them through the great molders of public opinion, the press He should encourage the forming of societies of hygiene, until every hamlet and city in our great nation has an organization for the promotion of life and health Rouse the women of the land to organize another crusade, for the protection of the homes from sickness and death One that will sweep across our beloved land, leaving peace and long life to the inhabitants Seize every opportunity to spread the doctrines of good health Make the way so plain that the simple can understand We may be called alarmists, so was Paul Revere Among our own number will be those who have no faith in things new, even Christ had his doubting Thomas Others will ignorantly scoff at our danger signals, so did the ancient people at Noah's warning of the flood A few medical men, with hearts like Nero, will overlook any danger to others, so long as they reap a harvest As conscientious physicians, champions in the cause of public health, let us do our whole duty, heeding neither indifference, ridicule nor censure To-day's work will add to the public health, wealth and happiness, and will directly influence the shaping of the course of preventive medicine in coming ages

A reasonable limitation should be placed upon all tubercular patients Isolation would be an added burden to the invalid, but strict sanitation is necessary Carnot proved beyond a doubt that when his patients strictly followed orders in disinfecting their sputum, the dust from their rooms was free from contagion A thorough system of disinfection should be used in our hotels, theaters, school houses and other public buildings All receptacles of sputum should contain solutions that will destroy the life of the germs, or keep them moist until life can be destroyed All cars, steamships and other public conveyances, should be provided with the means for destroying the bacilli, and should be thoroughly disinfected at the end of each trip Owners of factories and workshops should be compelled to surround their employes with such safeguards as disinfectants and pure air Rented houses should be fumigated and a certificate from the proper health officer furnished the new tenants Rooms, bedding and furniture known to have been occupied by a consumptive should be disinfected as soon as vacated Make the sale of milk and meat from tubercular cattle a crime, and the punishment so severe that men in the business will scan well what leaves the dairy or shop

Instruct the tubercular mother not to nurse her child Enforce laws that will restrict immigration, excluding those who suffer with the dread disease This should be under the supervision of medical experts

To get at the root of the whole matter—educate the children Place books in the schools that teach true sanitation, making it the most important study, instead of the least Develop our youths by physical training so that their constitutions will throw off the seeds of disease instead of retaining them Teach them that inherited defective organisms must be remedied, that a depleted system will be in condition to receive the germs of phthisis pulmonalis If principles of sanitation are thoroughly instilled into the minds of our youth, the coming generation will be better able to overcome the dread disease than has been the present one

Reading material on this subject should be furnished by our boards of health for free distribution There should be special hospitals for consumptives All this can not be carried out unless aided by the State and nation A few of the States have taken a step in the right direction There should be experimental stations with scientific men in charge, aided by the Government No such encouragement as Pasteur and Koch received from France and Germany, in the way of funds and laboratories, has been given to the men of our country by the government Must America in shame always follow, instead of taking her place in the front ranks of medical progress? If there are doubts in regard to advanced theories of health, it is the duty of our government to remove these doubts, or prove the theories false by experiment and research She can not longer shift the responsibility If, through mismanagement of railways and factories, a man is accidentally injured or killed, large damages are awarded and the utterance of public opinion is long and loud on account of criminal carelessness Shall our nation be held guiltless for sickness and death, which she can, but will not prevent? The cost may be great, but, compared with the number of lives saved, the expense will be trifling Money is freely spent in almost every other line of research, but there seems to be a prejudice against the passage and enforcement of sanitary laws Our last Congress refused to pass Representative Barthold's bill to appoint a committee to investigate the cause of the pollution of water supplies, but $40,000 was voted to be used in exterminating the gypsy moth, $15,000 for experiments in irrigation and $885,000 was granted to the Weather Bureau

We do not criticise the expenditure of these immense sums for the benefit of our country But is it not outrageous that the lives of our people are considered of so little value? Is the financial condition of our country more important than the health of our nation? Are the agricultural interests to take precedence of the lives of our citizens? With the President's recommendation to Congress of a Public Health Department, we passed another mile stone in the march of preventive medicine That we may keep abreast of advancing civilization, let us agitate this question before the people, until there sits in the cabinet council one whose watchful eye is ever on the foes of mankind, and his finger on the pulse of the nation, seeking for signs of disease, in order that he may ward off threatened danger Then, and not until then, shall we see the full realization of our hope, our land freed from tubercular disease

ISOLATION HOSPITALS FOR CONTAGIOUS DISEASES OTHER THAN SMALLPOX

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association at Baltimore, Md , May 7 10, 1895

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It is well known to many members of this Sectio that the various State boards of health throughou the United States and Canada have been in the habi for many years of meeting annually in conferenc each board sending one or more delegates The ob ject of this conference has been to compare note with regard to sanitary administration, to render th experience of all the boards available for the info mation and instruction of each, and to discuss suc questions with regard to inter State and seaboar quarantine, and the mutual relations of the sever boards, as have a wider scope than the interests the individual commonwealths

At the meeting of this conference, held in Cinci nati in 1888, the question of isolation hospitals w presented in an admirable paper by Dr P H Bryc Secretary of the Board of Health of the Province Ontario The title of his paper was, "The Duty the Conference in urging the Erection of Isolatio Hospitals for the treatment of Infectious Diseas (as scarlatina, diphtheria, etc , as well as smallpo as a more economical and effective method than pl carding and quarantining the houses where the diseases are present" This title appears to me bring the subject before us in a very practical wa It is, in point of fact, essential that we should ha isolation hospitals if we are to protect our commu ties from the ravages of the two affections me tioned, scarlatina and diphtheria, and to save t thousands of lives of little children which are sac ficed to them every year

The only question is as to the form in which su hospitals shall be provided Shall each house in whi a case of one of these diseases occurs be made, f the time being, an isolation hospital, its inmates barred from communication with the outer worl and subjected themselves to the risk of acquiring t disease for the entire period during which the patie is ill, with the added period of necessary quaranti after the patient has ceased to be an object of dang and the house has undergone disinfection? No o whose house has not thus been temporarily convert into an isolation hospital can appreciate the excess annoyance, discomfort and loss which are thus e tailed Especially is this true with regard to th in moderate circumstances, such as mechanics or sm tradesmen, to whom every day of loss of wages, or business, is a matter of the most serious impo Experience in England, in New York and to a certa extent, in Philadelphia has amply demonstrated t the spread of these diseases in families is very mu greater when the home is converted into an isolat hospital than when the member of the family f attacked is removed to a properly arranged and fu equipped isolation hospital It need scarcely be sa that no general hospital is now willing to receive fectious diseases, so that this first plan of convert homes into isolation hospitals must be continued, other isolation hospitals must be provided

The alternative plan is, therefore, to establish, only in every city but also throughout the rural d tricts, hospitals to which those suffering from c tagious diseases, of whatever kind, may be properly removed as soon as the diagnosis is made In a city of the large population and immense area of Philadelphia, for instance, one such hospital is not sufficient There should be at least four, so arranged as to be comparatively easy of access from the different quarters of the city These hospitals should not be *magnificent structures several stories in height* with elaborate architectural adornment, but should be constructed of wood, on what is known as the pavilion plan, and but one story in height All of the expenditure should be devoted to the internal arrangement and equipment In consequence of the horror which is inspired by smallpox, it would unquestionably be better that that disease should be treated in an entirely distinct hospital, and at a different location from the others The other two should be treated in separate pavilions, but might be under a a common administration Separate ambulances should also be provided for the different diseases

The advantage to the family in which such disease occurs can not be overestimated At the time of the removal of the patient, the house can be inspected and disinfected, and the family, while not quarantined, can be kept under observation till the period of incubation is passed, and the wage earners, after a thorough first disinfection, be allowed to attend to their daily duties In this way the interference with attendance of children on school will be very greatly diminished The plan is in the highest sense both humanitarian and economical As remarked by Dr Bryce "It is, in many instances, absolutely impossible for the mother of a large family to nurse, for instance, a case of diphtheria, and attend to the many other household duties It is indeed cruel to permit a poor family to be, with an almost certainty, afflicted in all its susceptible members with a disease so fatal, and it is unjust and absurd to expect a wage earner to be prevented from earning the necessaries of life, while, with almost absolute certainty, house quarantine will extend the area and period of sickness, inflicting as well as an unnecessarily large doctor's bill, a tolerably certain undertaker's bill in addition "

The paper by Dr Bryce was generally discussed and his suggestions met with universal approval, so far as the desirability of the step proposed was concerned, the only question being with regard to its practicability in small towns and sparsely settled districts The subject was referred to a committee which reported as follows

"1 That the principle of the establishment of isolation hospitals, as a preferable method to placarding houses and quarantining families, has been fully confirmed, both by general experience and the experience of members of the conference

2 That the practical difficulties 1, of expense of establishment 2, of the removal of persons suffering from dangerous infectious diseases thereto are not so serious in practice as at first sight would appear, since the simple character of the isolated building required in many cases for handling first cases, and the discrimination which ought to be exercised by medical health officers in the removal of persons, will be found to largely remove what in many cases appeared insuperable difficulties

"3 That it is most desirable that the position which all our State and provincial boards should take, is that of urging from the standpoints of duty and economy their local boards to establish places of isolation for those cases of diphtheria, etc which in their opinion will be dangerous to the household and to the community

'4 That contemporaneously with education along the above lines,State and provincial boards ought to press for such legislation as will place them and their local boards in a position to enforce such isolation as the circumstances may demand "

There is no question in my own mind that the existence of such hospitals, provided with every means which modern science can suggest for the proper treatment of such cases, not only comfortably but tastefully furnished, would be at once appreciated by the community, and that families in good circumstances would be anxious to avail themselves of such opportunities, and to pay well for the privilege, so that such establishments would not only pay for themselves but might be a profitable investment The mother of the family or the elder sister could go with the patient, so that a little child would not be compelled to suffer the pangs of bereavement, and the home would thus cease to be an isolation hospital, with a placard on the front door stating the fact As soon as proper disinfection had been performed, the father of the family could go out to business as usual, and the social life of the house could proceed without interruption

All the discomforts, anxieties, vexation and perplexities accompanying the presence of a case of infectious disease in the house would thus be avoided Not only would it be a means of protection to the other members of the family, but the chances for the patient himself would be greatly improved I say this advisedly, and desire to give my reason for this belief During the past year smallpox has prevailed in Harrisburg, the capital of Pennsylvania At the earnest solicitation of the Secretary of the State Board of Health, the city council of Harrisburg erected a small isolation hospital, and after that building was in readiness to receive occupants every case was at once removed to it Extreme care had been taken in the ventilation of the wards of the building All the used-up and infected air of the building was drawn out by means of artificial exhaustion, and passed through a furnace designed for the destruction of the excreta and garbage of the institution Warm fresh air was constantly introduced The amount of fresh air thus furnished was greatly in excess of that with which the patients were provided in their own homes The consequence was, as I have been assured by the chairman of the sanitary committee, who had the general charge and management of the epidemic, that soon after admission the temperature of the patients fell, the nervous irritability diminished, and as a rule they soon fell into a quiet sleep, in cases in which wild delirium had been present on entering, they awoke from this slumber refreshed and calm The experience of Harrisburg in this matter is valuable as regards the necessary expense of such a building Their hospital will accommodate with ease forty patients, it is one story high, seventy six feet in length and thirty-six in width Its ventilation, as I have said, is very perfect, and its cremation furnace is so effective that not a particle, either of infected material or of infected air can possibly escape from the building I believe that it could with safety be placed in a populous neighborhood The entire cost was only $3,000

Whether pay patients should be received in separate wards, separate pavilions or in entirely distinct establishments from charity cases is a mere question of detail It might be quite possible to have distinct wards or distinct pavilions in the same inclosure for such cases, as is now the custom in general hospitals. But, as one great object would be to make such refuges so attractive that compulsory removal would be unnecessary, it might be well to have entirely separate institutions. If this latter plan were adopted, however, it should be a *sine qua non* that the hospital should be under the direct supervision of the local health authorities, and that every detail of administration should be in accordance with their regulations. In this way alone could safety to the community be insured. This need not interfere, however, with the attendance of the family physician on his own case in the hospital. This would be essential to making the movement a popular one, and would go very far toward recommending it to the patient and his family. The relief to the physician himself from the anxiety which he always feels with regard to other members of the family would be very great. At the same time the facilities which would be provided him for the protection and disinfection of his own clothing and person would be such that he would be much less apprehensive of carrying the infection to other families. The methods of personal precaution insisted on in such a hospital, under the immediate supervision of the health authorities, would also be of very considerable educational value to the profession.

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ADVANTAGES TO A COMMUNITY OF A HOSPITAL FOR CONTAGIOUS DISEASES

Read in the Section on State Medicine at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

BY J. L. LEAL, A.M., M.D.

PATERSON, N. J.

Having had occasion recently to secure some information upon the subject of contagious disease hospitals, I communicated with the authorities of a large number of cities in this country, inquiring what facilities they possessed for the care and isolation of their cases of communicable disease. These inquiries were addressed to cities of the largest size as well as to those of not more than 25,000 inhabitants. The result, considering the advanced state of sanitary science, as well as the general interest regarding the public health which is now aroused, was most astonishing. I found very few cities making any claim to proper equipment for the handling of these diseases. The majority of them possess some sort of a pest house in which a stray case of smallpox, typhus or yellow fever, or cholera could be thrust and hidden away, but do not make the slightest provision for the care of those suffering from the ordinary endemic diseases of this class, or for the protection of the public from such sufferers. A certain small proportion of these cities possess, or contain, general hospitals which have wards or detached pavilions for the care of these cases, but in all of them the facilities are not adequate for the purpose, said wards or pavilions being used mostly for those unfortunates literally thrown upon the care of the city, or of the hospital, and for whom some provision had to be made. Charity and humanity are the ends in view and not the protection of the public health.

Now, in considering the condition of affairs here shown we must conclude, either that the advantages of contagious disease hospitals are not thoroughly appreciated by the health authorities of the majority of these cities, or else that public opinion is not yet educated to the point of granting their demands for this most necessary sanitary equipment. The fault lies probably with the public, and the remedy will prove to be its further education in its needs in this direction. This education and enlightenment will come through the influence of such bodies as this, and the individual efforts of the men who compose them. It is comparatively a few years ago when general hospitals were rare outside of large cities. Now, a town of from five thousand to ten thousand inhabitants without its hospital is a rarity. The public appreciates their necessity and prides itself on their maintenance. They are local monuments to *charity and humanity*. The *contagious disease hospital*, on the other hand, is a bulwark against disease, a protection to every citizen, his family and his home. So, as selfishness is ingrained in mankind, and self-preservation is the first law of nature, it but needs the necessary intelligence and knowledge on the part of the citizen to place the contagious disease hospital upon a level of importance at least equal to the police station or the fire engine house.

Now, as to the character of such an institution. It should be a hospital in every sense of the word, and not a pest house. The pest house has outlived its usefulness and should be relegated to the past. Its location should be carefully selected both with reference to the safety of the community from contagion and with reference to the moral effect upon the patients and the community. It should be constructed and managed upon the most modern and scientific principles. The various buildings and departments should be so located and constructed as to secure the safety of patients suffering from one disease, from all danger of infection by another. Furniture should be simple, and floor walls and ceilings should be of such a character as to permit of thorough flushing and disinfection. Medical attendance, nursing and general management of the institution should receive at least as much attention as in the ordinary first-class general hospital. The advantages to a community of such an institution will easily far more than counterbalance the labor and expense involved. In the first place, it will provide proper care for homeless persons, those taken ill in hotels, boarding-houses and institutions, and such care can be given without danger to the public health. In the second place, with an institution of the above character, it would not be long before public sentiment would be educated to the point that the majority of patients suffering with communicable disease would be willing to go, and their friends to send them, to the hospital. Not only on account of the better care which they would there receive, but also on account of the danger to others due to their proximity, as well as to the pecuniary loss due to the public apprehension and the restrictive measures now in use by most health authorities. It would be then but a step further and the public would demand that these cases be removed, whether willing or not, for the sake of the public good. When that point is reached it seems to me that we will be a long way on the road toward the control and almost practical suppression of this class of diseases.

It has been proved that by prompt removal and isolation of persons suffering with smallpox, typhus, ellow fever and cholera, communities have been saved from what would certainly have proved epidemics of those diseases Then why would we not secure practically a like result by similar action in he cases of other diseases of this class? Scarlet fever and diphtheria are far more dangerous to the people of this country than any one of the diseases enumerated above Why, then, so much excitement and so much exertion over the suppression of smallpox, cholera and typhus, while scarlet fever and diphtheria are always with us, and their presence and their ravages taken as a matter of course? Simply because our familiarity with these diseases has bred contempt It is well known that the Mexican regards smallpox and the Hindoo cholera, in about the same light that we do scarlet fever and diphtheria I believe that there is more danger to one of our communities from a case of scarlet fever or diphtheria than there is from a case of smallpox, typhus or cholera, and that at least as active measures should be taken for their suppression Now almost the first thing done is to remove a case of typhus, cholera or smallpox to a place of some kind to get it away from the community, so that its presence may not be a menace to it Owing largely to this method of procedure, these diseases have become a comparative rarity in well ordered communities Certainly, this is strong presumptive evidence that we could secure practically similar results by the same procedure in the case of those more common diseases of the same class To be sure, these diseases are now endemic with us and there exists such general infection that it would be difficult to overcome it Still I firmly believe that with a proper institution for the purpose, and the prompt removal thither and proper isolation of the cases, together with the sanitary measures now in common use, that this general infection could be overcome and these diseases controlled practically as well as are the others mentioned In the third place, from an economic point of view such a hospital would be an advantage to any community An outbreak of communicable disease in the family of an ordinary working man is usually a very serious matter even in a financial way There will be the usual extraordinary expenses attending illness of any kind, and beside there is usually loss of work for those members of the family through whom the income is received, due either to the restrictive measures employed by the authorities, or through the fear of employer and fellow-employes Should the disease spread from one to another of the family, a great deal of time and its rewards will be thus lost, and in many cases the family never recovers from the effects From being a self supporting, spending member of the community, the working man is often obliged to call for public aid in his trouble His community therefore loses not only the aid given him, but also what he should have earned and spent during that time If, now, there were proper hospital facilities, the first case being at once removed from the premises, the chances are that the disease would not spread to other members of the family, and proper precautions having been taken, there would be no fear on the part of employer and public, and therefore no cessation of revenue and consequent financial difficulties I am confident that a careful investigation on these lines in any community of size, will show a loss far beyond the expense of maintaining a hospital We are certainly justified, then, in claiming that a proper hospital, properly used, will furnish patients with better care, will tend to protect the general public from infection, and will save the community financially far more than its cost

SIMPLE CATARACT EXTRACTION AND SOME THOUGHTS ON PROLAPSUS OF THE IRIS

Read at the meeting of the Chicago Medical Society, June 5, 1895

BY BOERNE BETTMAN, M D

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Since the introduction of Daviel's flap operation for cataract in 1748, numerous methods for the extraction of opaque lenses have been introduced, modified and abandoned The innovation of antisepsis was followed by the rejection of Graefe's modified linear extraction and the re introduction of the corneal flap Most of the leading oculists the world over, now make the corneal incision either within the corneo scleral margin or at the limbus The important question which has interested oculists with reference to cataract extraction since 1888 is whether to do the simple extraction or the combined operation The war has been waged fierce and hot The literature on the subject is extensive The annals devote separate chapters to the discussion of the two methods After these years of probation some authorities who first advocated simple extraction have returned to that first love and do an iridectomy Foremost among these stands Stellwag von Carion Such reliable and skilled observers as Knapp, De Wecker, Schweiger, Hirschberg, Noyes, Gruening, Galezowski, Panas, Gayet and others affirm that simple extraction without iridectomy is the ideal cataract operation Fuchs, Argyl-Robertson, Swanzy and Von Hippel have always advocated the combined method In order to appreciate what gave rise to these diverse opinions it may be well to learn that the *causus belli* was the danger arising from prolapsus of the iris The advocates of iridectomy rightly claim that the above mentioned mishap can not occur when a piece of the iris is removed The upholders of simple extraction, on the other hand, assert that prolapsus of the iris does not frequently follow, and when it does, it is not a serious complication and can be readily overcome in many cases by snipping it off Again, they maintain that iridectomy exposes the eye to many dangers which simple extraction obviates

The advantages and disadvantages have been summarized by many writers I will quote the opinion of a few only Knapp[1] enumerates the advantages of the simple extraction as follows

1 It preserves the natural appearance of the eye

2 The acuteness of the vision, other things being equal, is greater

3 Eccentric vision and "orientation" (correct localization of objects in the visual field) are much better, adding a great deal to the comfort and safety of the patient

4 Parts in direct connection with the ciliary body, such as shreds of the capsule and iris, are not so liable to be locked up in the wound, and thus transmit morbid conditions to the most vulnerable part of the eye—the ciliary body

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[1] Annual of Medical Science Sajous vol III., B p 51, 1888

5 It may not necessitate so many after-operations As disadvantages, may be mentioned

1 The technique of the operation is more difficult in all its parts (*a*), the section must be larger to let the lens pass through an aperture, the size of which is diminished by the iris lying in it, it must be more accurate to secure coaptation, and it must be more rapidly performed in order to prevent the iris from falling before the knife (*b*), the opening of the capsule requires a deeper introduction of the cystotome into the anterior chamber (*c*), the expulsion of the lens is more difficult, and (*d*), the cleansing of the pupillary area is much more troublesome than in the combined extraction

2 Prolapsus of iris and posterior synechiæ are more numerous

3 It requires a quieter and more manageable patient during and after the operation than is needed in the combined extraction

4 It is not applicable to all patients, whereas, combined extraction can be used as a general method

Bull's[2] conclusions and those of Schweigger[3] are very similar to those already referred to Further observations and experience have demonstrated that they are tenable at the present day It is not my intention to discuss this subject at all, being fully satisfied that simple extraction in selected cases is to use the words of Dr Knapp, "an operation of the highest order' During the last four years I have done the simple extraction exclusively in all cases where no contra-indication existed In the early part of my experience I placed the upper part of my corneal section between 1 and 2 mm within the corneo-scleral margin, completing the incision by turning the knife at right angles to the corneal surface and cutting out vertically In every case I instilled eserin up to six months ago, to contract the pupil and forestall prolapsus of the iris In some, adhesions formed between the iris and edge of the corneal wound which, as far as I know, did not cause any subsequent worse results than elongating the pupil In only four of the cases operated upon up to the present date did a prolapsus of the iris occur In two only was I obliged to snip it off The two others disappeared after two or three weeks, leaving a clear corneal scar with adhesion of the iris to the posterior surface of the cornea

After reading De Wecker's[4] article on "*La Suppression Partielle De l'emploi Des Collyres*," in which he calls attention to the uselessness of eserin in preventing prolapsus of the iris, and to the dangers of sepsis resulting from the employment of eye drops which rarely are germ proof, I abandoned its use The results became correspondingly better, synechiæ became rare, the great majority of eyes showing perfectly round, regular pupils I also placed the corneal incision nearer the periphery within the corneo scleral boundary These changes in the technique of the operation improved my results Thus the two imaginary safeguards in avoiding prolapse of the iris were found to be without foundation I had supposed that the upper corneal flap, if I may so call it, acted as a support to the iris and prevented its incarceration in the corneal wound During my recent sojourn in New York, I noticed that neither Gruening, Knapp, nor Noyes evidenced any fear of

prolapsus of the iris, the former dilating the pu
before and after extraction with a 10 per cent solut
of cocain, the others with atropin Gruening affir
that the cocain reduces the intra-ocular tensi
Accacio da Gama[5] *recommended* the employment
atropin in simple extraction in 1890 I desire to
port tonight my last cataract operations in which
incision was *made in the extreme* periphery of
cornea and atropin was employed to dilate the pu
before and after the extraction The results obtain
with one exception, may be regarded as ideal

Case 1—John Mueller, aged 57 Mature senile catarac
right eye Perception and projection good March 2, at
pin instilled into right eye two hours before operation
cision made in limbus Lens easily removed Instillat
of atropin, both eyes bandaged Patient allowed to w
to his room Bandage removed on third day Wound heal
pupil round Bandage removed on each succeeding day
atropin instilled Left eye remained free after fourth d
right eye after sixth day *Patient out of bed on fourth d*
Eyes protected by shade after tenth day

Case 2—Mike Walsh, age *unknown Diagnosis mat*
senile cataract of right eye Perception and projection go
Simple extraction March 4 *Pupil dilated by atropin* C
neal incision in limbus Lens readily removed Atro
instilled, eyes bandaged, patient walked to his room T
days later bandage taken off and eye found in excell
condition Pupil round and dilated Patient out of
next day, without bandage on sixth day, *given liberty*
house, protected by shade

Case 3—John Sapp, aged 64 Diagnosis mature sen
cataract of left eye Immature right eye Perception
projection good March 9, simple extraction done with
hand Pupil did not react well to cocain mydriatic
assistant had forgotten to employ atropin instead L
extracted with difficulty through contracted pupil Edge
iris was slightly nicked by the voluminous lens being for
through pupil Atropin instilled, eyes bandaged Recov
uneventful Pupil round, regular and free After-treatm
the same as in above cases

Case 4—John Hobert, age 42 Mature senile cataract
eye Perception and projection good Opacities of cor
due to chronic trachoma March 26, simple extraction w
left hand, atropin mydriasis Bandage changed daily af
third day, atropin instilled *Recovery normal* Res
perfect

Case 5—A G *Thomas, age 62 Mature senile catar*
right eye Perception and projection good April 6, pu
under influence of atropin, simple extraction After-tre
ment routine one Result perfect Patient kept quiet
bed two days, *allowed to leave room on seventh day w*
shade

Case 6—Peter McNamee Mature senile cataract left e
Perception and projection good Operation April 19, at
pin mydriasis Simple extraction with left hand Unevent
recovery No unpleasant reaction Routine after-treatme
Perfect result Pupil round and clear

Case 7—A G Thomas Mature senile cataract left e
May 2, simple extraction, atropin employed before and af
operation After-treatment as in above cases Result p
fect In lower pupillary field, opaque capsule

Case 8—Lydia D, aged 52 Insane epileptic brought fr
Elgin Insane Asylum Mature senile cataract left e
Right eye had been operated one year ago, combined ope
tion with good results May 11 atropin instilled forty-eig
hours before operation Simple extraction done with l
hand On the second day patient pulled the bandage fr
the eye It was re-bandaged by a patient On dressing
eye May 13, I found a small prolapsus of the iris The e
was *otherwise normal* in appearance The right was expos
the left re-bandaged every day and atropin instilled T
prolapsus fully disappeared after ten days' bandaging
June 1 she was discharged The pupil is oval, the upp
part of *the iris being incarcerated in* the perfectly smoo
cicatrix Her vision is good

Cases 9 and 10—John W F Mueller, aged 50 Matu
cataract both eyes Lower one third of left cornea cover
by a dense scar Right pupil dilated by atropin and le
extracted early in March Simple extraction Bandage
moved two days later Wound healed, pupil dilated a
round Left eye remained free after third day Perfe

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[2] Bull, Sajous Annual, 1890, B, 62

[3] Schweigger Sajous Annual, 1888

[4] Annales d' Oculistique, June 1894, p 401

[5] Accacio da Gama, Nov 16 1890

recovery, allowed to walk about house at expiration of one week Left eye operated with left hand May 16 Simple extraction Result perfect

Case 11—Mrs K, aged 62 Right eye, combined operation four years ago Left eye, senile mature cataract May 27, after instilling atropin four times during the day, I did a simple extraction with left hand Bandage removed two days later Eye slightly injected, wound healed, pupil dilated and regular, small quantity of opaque lens substance in pupillary field This absorbed *in time* Right eye left unbandaged after third day left eye after seventh Recovery rapid, result excellent

In every one of the above cases, a wrinkling of the lens capsule ensued which impaired the vision In some, I made a secondary capsulotomy which materially improved the vision The others will be subjected to the same operative procedure within the next few weeks My experience with atropin in simple cataract extraction is limited to the above cases, and being meager will not permit of any very general deductions I can not refrain, however, from giving vent to some views regarding the occurrence of prolapsus of the iris and how best to avoid it It is a well known fact that this complication is due directly to opening of the corneal wound and indirectly to the escape of the aqueous humor which flushes the iris between the lips of the gaping wound The pressure exerted by the aqueous in the anterior chamber upon the cornea is naturally the same over its entire posterior surface, but the upper part of this membrane, owing to its severed condition, naturally offers less resistance than its remaining part If the pupil is contracted by eserin, the appearance of the iris must necessarily be forced out of position by the aqueous humor in the posterior chamber If the iris were a rigid membrane, the contents of the posterior chamber would flow through the pupil into the anterior chamber and then through the re opened corneal wound But as the rainbow membrane is a delicate relaxed tissue, we can readily comprehend that the aqueous humor back of it in flowing out from the eye carries the iris before it, forcing it out of the eye, thus producing a hernia of the iris Another factor which favors prolapsus is the contractile power of the sclerotic In the normal eye this tunic is kept comparatively tense by the pressure exerted from within by the aqueous and vitreous humors When the eye is opened the place formerly occupied by the drained off aqueous, is filled by the other ocular contents, which are propelled forward through a partial collapse or contraction of the sclerotic If the sclerotic were composed of some firm and unyielding material, as bone, the anterior and posterior chambers might be evacuated without endangering to a great extent the position of the iris, especially if the pupil were dilated The above mode of reasoning has been fully elucidated by Fuchs in his classical treatise on "Ophthalmology" If this line of argument is conceded to rest on fully established truths, several logical sequences result Narrowing of the pupil by eserin increases the danger of large prolapsus of the iris, this tissue offering in its contracted state a larger surface for the aqueous back of it to force outward, than if it were widely dilated In the latter case, a larger quantity of aqueous would find direct outlet through the pupil, and less iris surface act as resisting medium The only valid reason for employing eserin at all would hold good if its use were based upon its property of reducing intra ocular tension

The first thought to present itself to an operator, in trying to avoid prolapsus and still preserve the iris intact, is to make the corneal incision near the pupillary margin The pressure from behind on the cornea is now more equally divided, or rather the resistance offered the aqueous humor is more uniform, the upper flaps being almost as firm as the lower ones Such an operation was actually devised by Liebreich The interference to vision by the subsequent corneal scar, the production of astigmatism, due to irregular curvature of the cornea, and the frequent occurrence of anterior synechia make this method undesirable Therefore several operators favored a more peripheral incision, one within 1 and 2 mm of the limbus This is the cut I have heretofore practiced, as stated before I still regard it as a desirable procedure The upper corneal flap is from 1½ to 2 mm high It offers a support to the iris and when a prolapsus does occur it can not be as large as when the incision is made in the corneo scleral margin Another method of decreasing the chances of prolapsus is that advocated by Galezowski and Fuchs—sphincterotomy It consists in cutting out a small piece of the pupillary margin of the iris It is asserted that an easier delivery of the lens is thus permitted and less resistance offered the aqueous in the posterior chamber The importance given to iris hernia in this paper might lead one to suppose that it is of frequent occurrence This is not so, as reference to statistics will verify

Esson reported eight cases of incarceration of the iris in sixty operations

Albrandt, in a series of 232 operations, done by Scholler, noted prolapsus twenty times

Knapp,[6] in 509 simple extractions, 42 cases of prolapsus (8 2 per cent) In the majority of cases it was slight and either disappeared spontaneously or cicatrized without danger to the eye

E Greiff[7] reports 450 cases operated by Schweigger, of Berlin, prolapsus thirty-five times (7 9 per cent), nine were small and required no further attention, twenty-seven (6 per cent) were amputated One hundred and thirty cases (corneal incision above), prolapsus twenty-three times = 8 5 per cent

Knapp[8] in 300 simple extractions met with prolapsus and incarceration of iris eight times The latest statistics by the same author, presented at the Eighth International Congress, held at Edinburg, August 7 to 11, 1894, show 35 cases (10 3 per cent of prolapsus, incarceration, or adhesions of the iris in 548 operations

To what, however, must we attribute the hernia iridis? The location of the corneal section does not appear to have a great bearing, the percentage of prolapse not being materially influenced by either method During the last four years I have encountered but four cases of prolapsus One occurred in an excessively nervous patient, who retched and vomited frequently during the twenty four hours subsequent to the extraction Two took place in patients who left their bed contrary to orders twelve hours after the operation The fourth, the one reported above, must be attributed to the violence and unruliness of the insane woman Two were snipped off, and two disappeared after a week's bandaging In my opinion, the subsequent treatment and behavior of the patient is largely responsible for it Bearing in mind that the intra ocular tension after the extraction is relatively greater than it was before the cornea was incised, we must endeavor by counter-pressure and immobility of the eye to hasten the re-adhesion and firmness of the corneal wound, in one word, to restore as rapidly as possible the equilibrium between external and internal pressure Great differences of opinion exist regarding the after-treatment Chisholm stands at the head of a faction who oppose bandages and restraint of all kinds He simply fastens the lids of the operated eye by gold-beater's skin or a piece of adhesive plaster, leaves the other eye open and gives the patient, protected only by dark glasses, the freedom of the ward Others, again, permit the bandaged patient to walk from the operating room to his bed and there remain quietly for two days Some operators do not remove the first dressing until forty-eight hours elapse, others operate on the patient in bed so as to avoid any possible strain attributed to locomotion and undressing I heartily agree with the innovators of the idea that patients should be free from the restraint which was formerly placed upon them, but it appears to me some go to the opposite extreme When I was Professor Becker's assistant in Heidelberg, fifteen years ago, our cataract cases were indeed subjected to a most trying ordeal During the first four or five days they were expected to lie prone on the back Notwithstanding the impossibility of the occurrence of prolapsus, owing to the iridectomy done in every case on the third or fourth day they were allowed to assume a half upright position, being supported by a back rest At the end of a week one eye was unbandaged and the patient allowed to sit in a chair in a dark room It required another week to accustom the operated eye to the light, which entered through a partially drawn Venetian blind During the third week the patient was given the freedom of the hospital, the eye protected by smoked glasses The middle course, not too much freedom and not too much restraint, I regard more in keeping with the demands of circumstances we are called upon to meet The upper half of the cornea has been severed This must re-unite Any untoward movement of the eye or of the body which will tend to disturb the close adaptation of the flap, either on account of mechanical insult or increase of intra-ocular pressure, must be carefully avoided This can best be accomplished by guarding the patient from such mishaps

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[6] Transactions of the Amer Ophthal Soc. twenty seventh meeting, p 80

[7] Archiv f Augenheilkunde xxii p 186

[8] Archiv f Augenheilkunde xxii p 35

I do not intend to take up more of your time by entering into a detailed discussion of the various methods of after-treatment, but will, in conclusion, mention the method I invariably enforce I always operate in the operating room, the patient reclining either in a chair or on an operating table After extracting the cataract, both eyes are covered by pieces of clean linen dipped in boric acid Over this are placed two thicknesses of thin cotton discs The whole is kept in position either by a two inch broad gauze bandage, or more often by one made of starched mosquito bar netting This latter material must not be starched too much, otherwise it will after drying, exert too much pressure on the eyes The fine netting in commercial use will answer the purpose After being sterilized it is dipped in boric acid and applied The patient is led to his room, and such clothes as have not been previously removed are now taken off The parting instructions are, " Remain quietly on your back, or on the non-operated side for twelve hours ' An aperient having been given the night before, the desire to evacuate the bowels will not arise until the third day The bandage and wet cloths dry after a few hours and conform to the shape of the head and other parts they cover, thus exercising a uniform and gentle counter pressure and rendering the eyes immobile When the bandage is cut away it retains the form of the parts like a plaster-of Paris dressing Only fluid diet is allowed the first forty-eight hours After twelve hours the patient is supported in a partially upright position by a back rest The eye is dressed for the first time on the third day unless subjective symptoms require an earlier inspection After removal of the bandage (cut with scissors), the edges of the lids are washed with boric acid and the eye inspected Boric acid and atropin are dropped between the lids and the eye re bandaged This method of dressing the eye is repeated daily until the fifth day, when the eye is left open, the non-operated eye having been freed already on the third day after the operation On the third day the patient leaves the bed and sits in a comfortable chair On the seventh he leaves his room This is my routine practice in the general run of cases Strict adherence to the above method, which contemplates rapid union of the corneal wound, by moderate quiet of the patient and immobility of the eyes, appears to me to be responsible for the few cases (four) of prolapsus which have occurred in my practice The presence of a well trained nurse helps greatly in reaching the desired end

Permit me, in conclusion, briefly to review the main features of this paper My object in reporting the eleven cases operated under atropin and with a periphery incision and in referring to other methods in vogue, is to demonstrate that good results are obtained, no matter where the corneal incision is placed, neither does the employment or disuse of eserin, atropin and cocain affect the occurrence of prolapsed iris The most important factor in an ideal outcome is the after-treatment, the observance of methods which will counteract intra-ocular tension and thus rapidly lead to reunion and firmness of the cornea

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CLINICAL MICROSCOPY

Read by title before the Tri State Medical Society at St Louis, April 2 1895

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In presenting a paper on the subject of scientific medicine and the microscope, I have no discoveries to reveal, nor shall I attempt to review the progress in the science of medicine brought about through the revelations of the microscope, but rather will I direct your attention to its clinical value With this in view, we will omit detailed reference to the important facts revealed by studying the minute anatomy of the different organs in both their normal and diseased conditions It is axiomatic that the more we know of the structure, both macroscopic and microscopic, of organs healthy or diseased, the more capable are we to understand the physiologic and pathologic processes which occur in those organs or tissues, and so we will not dwell on those points Moreover a large part of such knowledge has been acquired through study of the post-mortem specimen

But to-day I desire to emphasize the growing importance of the microscope in the clinic, or at the bedside, as an aid and sometimes as the all essential factor in establishing an early and positive diagnosis and prognosis

With the recent discoveries in chemistry, microscopy, and bacteriology, scientific medicine has probably advanced as much in the last few decades as in all previous time The art of medicine is being replaced by the science of medicine Not more than a generation ago, the successful practitioner must needs have had very extended observation of disease in order to weigh one symptom with another, and judge between them properly Distinctive pathognomonic symptoms were not known so well as now Diagnoses were more a matter of judgment, and naturally, other things being equal, the one who guessed the longest was the best guesser

But at present, with a great many diseases, conditions have changed Thorough laboratory courses may answer for several years of practice Instead of looking for a combination of symptoms, we look for one distinctive symptom, and whereas the old practitioner, in many cases, after much observing and deliberation, could give only a probable diagnosis, to day, the young physician well drilled in chemistry, microscopy and bacteriology is able in many of the same cases to give an immediate and positive diagnosis and a more correct prognosis The artist is giving way to the scientist, conjecture and judgment to confidence and knowledge

The diseases which often can be positively diagnosed by a microscopic examination of the blood, and sometimes only by such an examination are leukemia, pseudo-leukemia, oligo cythemia, pernicious anemia, simple leucocytosis, chlorosis, anthrax, miliary tuberculosis, glanders, typhoid fever, tetanus, relapsing fever and malaria, with its different tertian, quartan and atypical types, and those diseases caused by the animal parasites distoma hematobium, and filaria sanguinis hominis

To review a little, we find that oligo cythemia is characterized by a decreased number of the red blood corpuscles without change in the number of the white In health 1 cu mm of blood contains according to Vierordt, four to five million red blood corpuscles In oligo cythemia, the number has been known to be decreased to 360,000 for the same volume Probably the best means of determining the number for clinical use in diagnosis and in estimating the effect of therapeutic measures is the microscope, together with the Thoma-Zeiss counting apparatus The amount of contained hemoglobin can be most accurately determined with Fleischl's hemometer

The condition oligo-cythemia is present in simple anemia, chlorosis and pernicious anemia In the simple anemia there is merely a decrease in the number of the red corpuscles with a normal amount of hemoglobin for each corpuscle In chlorosis there is, beside the decrease in the number of the red corpuscles, also a decreased amount of hemoglobin in each corpuscle While in pernicious anemia, a disease which is always fatal, there is, beside the lessened number of red blood corpuscles and of their contained hemoglobin, the additional factor of poikilocytosis, i e, a marked irregularity in their size and shape, with relative increase of the amount of hemoglobin

Leucocytosis, on the other hand, is a condition characterized by an increase in the number of the blood's white corpuscles, which in health range from four thousand to ten thousand per cu mm

A much more serious condition, which is generally fatal, and the diagnosis of which is therefore valuable, mainly for the prognosis, is leukemia, or leucocythemia, characterized by a great increase of the number of the white corpuscles, a decrease of the number of the red and of their relative hemoglobin contents, associated with a marked increase of lymphoid tissue in the body But pseudo leukemia or Hodgkin's disease shows the increase of lymphoid tissue but not of the leucocytes

Of the infectious diseases whose germs are sometimes found in the blood, those of anthrax, relapsing fever, and malaria may be recognized by microscopic examination of fresh blood, but in glanders, typhoid, tetanus and general miliary tuberculosis, cover-glass preparations of the blood must be made and stained before examined

Given a suspected case of anthrax, anthrax edema, anthrax carbuncle, malignant pustule or woolsorter's disease, as the affection is variously called, an early diagnosis from acute phlegmonous inflammation and malignant edema is important, especially when the seat of origin is in the skin, for an early, and therefore thorough excision of the part may prevent general infection which latter when it occurs is generally fatal

The diseases likely to be confounded with relapsing fever or its synonyms, bilious typhoid, famine fever, mild yellow fever, seven days fever, bilious relapsing fever, are atypical cases of malaria, sepsis, miliary tuberculosis, etc But probably in none of the infectious diseases is the exciting cause more readily demonstrated in the blood than is the spirillum Obermeier in the blood of those suffering from relapsing fever In acute general miliary tuberculosis, always a fatal disease, the diagnosis not infrequently is difficult in the extreme Typhoid fever, septicemia, pyemia, chronic local tuberculosis of the kidneys, complicated by uremia, non-tubercular meningitis, capillary bronchitis, and general carcinomatous or sarcomatous metastases are all similar in many points The finding of bacillus tuberculosis in the blood, cover-glass preparations of which are made and stained in the same way as from sputum settles the question, both as to diagnosis and the inevitable prognosis

The blood of typhoid patients is but rarely found to contain Eberth's bacillus, especially in the early stages of the disease, being found much earlier in the fecal evacuations However, its demonstration in the blood would speak positively for the diagnosis and indicate a very serious condition of the patient

Glanders seldom attacks the human species, but when it does the demonstration of the Rotz bacillus or bacillus Mallei is best done by staining the cover-glass preparation according to Loffler's method When the disease is purely local it may be confounded with syphilis or tuberculosis, but diagnosed and treated properly may be cured, however, when the germs have entered the circulation, a fatal ending is only a question of time

Tetanus, although not a frequent disease in this climate, yet occasionally appearing as a wound disease, the discovery of the bacillus in the blood bids fair to assume considerable practical importance by reason of the discovery by Tizzoni and Cattani in the blood serum of an immune animal, of the tetanus antitoxin, analogous to Behring's diphtheria antitoxin

In malarial affections we distinguish three distinct types of the disease tertian, quartan, and irregular, and each is known to be accompanied by different forms of the plasmodium malariæ

In the tertian type, which is the most common, the plasmodium or hemamœba malariæ requires two days for the growth of a generation, each attack of chill and fever marking the advent of a new generation and the parent is seen divided into fifteen to twenty segments

In the quartan type, the parasite requires three days for its complete development and its progeny is six to twelve

The atypical cases where the paroxysm is quite irregular, or even approaches the type of a remittent or continuous fever or takes the form designated as chronic malarial poisoning, or malarial cachexia, is characterized most frequently by the half moon or sickle-shaped plasmodium of Laveran

The pure intermittent quotidian is caused by three generations of the quartan type, each maturing on separate days

Ordinarily, the pure tertian type, with the attack every other day, offers no great difficulty in diagnosis, but in the atypical forms already mentioned a positive diagnosis is often long delayed and not infrequently impossible without the aid of the microscope

From sputum and secretions and excretions of the oral cavity we recognize parasitic stomatitis, tuberculosis pulmonalis, diphtheria or membranous croup, actinomycosis and croupous pneumonia

In the examination of sputum for pulmonary tuberculosis, and of tonsillar or faucial exudates for the Klebs-Loffler bacillus of diphtheria, the microscope scores two of its greatest triumphs, the practical value of which is so well known that I shall not here dwell on them

By examination of fecal discharge we may diagnose cholera, typhoid fever, intestinal tuberculosis, and various animal parasites causing more or less of acute enteritis and the varieties under the subkingdom vermes as tænia, trichinæ, etc

In microscopic examination of urine, much positive knowledge is obtained with reference to disease of genito urinary organs, especially in differential diagnosis between simple hematuria, acute nephritis, chronic nephritis, contracted kidney and amygloid kidney, passive congestion of kidney and nephritic infarcts

The form of predominating crystals in urinary sediment may reveal the nature of any existing calculi Not infrequently, different tumors of the urinary tract, as papilloma, epithelioma and sarcoma shed small portions of their substance which are voided in the urine and whose nature can then be revealed best by the microscope

Tuberculosis of the urinary tract can often be positively diagnosed only by cover glass preparations of urinary sediments, and the seat of the ulcer, whether in the bladder, ureter or kidney, can often be determined by the predominance in the sediment of certain characteristic forms of epithelium desquamated by the ulcerous process

Differentiation between a simple non-infective and gonorrheal urethritis is possible in all cases by the proper microscopic and bacteriologic methods, and in some cases where all other methods would fail Prostatorrhea, spermatorrhea and male sterility are also questions for the microscope to determine

Finally the finding in the urine of actinomycosis, ecchinococci, distoma hematobium, filarial sanguinis hominis and ascarides would explain otherwise very puzzling cases

Of the cutaneous parasites, we recognize tricophyton tonsurans of ringworm, achorion Schoenlinii, of forms of ascoptes hominis of scabies, acarus folliculorum, beside the varities of pediculi

Then in different varieties of abscess, or purulent exudates, we can often appeal with advantage to the microscope to determine whether it is caused by the common pyogenic germs, or the bacillus tuberculosis or, less frequently, by anthrax, lepra or tetanus bacilli, or by echinococci or actinomycosis

Another very important field for microscopy is in the recognition and differential diagnosis of benign and malignant tumors, especially in parts suitable for operation, and in many cases, as has so frequently been stated already in this paper, the microscope offers the only means of making a positive diagnosis early enough to allow of effective treatment

Then in the domain of medical jurisprudence, where facts are demanded and conjecture is not allowed, the microscope plays an important rôle in the recognition of blood, hair, spermatozoa, etc

In many of the conditions and diseases referred to, diagnosis can often be made with great probability, and even positively, by noting a combination of symptoms and observing the course of the disease, or by excluding the possibility of other diseases in the case But such methods are always unsatisfactory and often dangerous in their delay For some one or more of the combination of symptoms may remain absent or be slow in manifesting itself, the patient may die before the course of the disease is run, and diagnosis by simple exclusion is likewise a slow and unsatisfactory method It is saying what the disease is not, rather than what it is

But the progress of medicine, as a science, demands and is achieving early and positive diagnoses The single and distinctive pathognomonic symptom is being sought and found The essential and exciting cause (without which the disease would not exist, no matter how many predisposing factors were operating) is being recognized, and the way better paved for the train of therapeutic measures to follow

The hospital, with its clinical and bedside teaching, has always been and always will be essential in proper medical training Laboratories are becoming so, more and more every day They are making the clinics more available and practical, and those colleges with limited clinical facilities can not establish themselves as thorough and practical institutions without equipping and maintaining good laboratories, and with such they can become eminently practical and scientific, for they can then, and not till then, use their clinical material to the best advantage

CONCLUSIONS

1 Medicine in many points is fast becoming a practical science

2 Microscopy and other laboratory methods are doing a great deal toward establishing the science of medicine

3 Thorough drill of the student in laboratory methods may answer for several years of general practice

4 Positive diagnoses and more correct prognoses are possible in a goodly number of diseases only by

the microscope, and general practitioners not having had thorough training in this instrument of precision should, at least for the benefit of their patients, avail themselves of it, or call on the services of an expert in that line

5 Medical colleges with limited clinical facilities may make their teaching eminently scientific and practical, by establishing and conducting good laboratories and thus get the best good from their clinics

PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI)

BY BYRON ROBINSON

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(*Continued from page 326*)

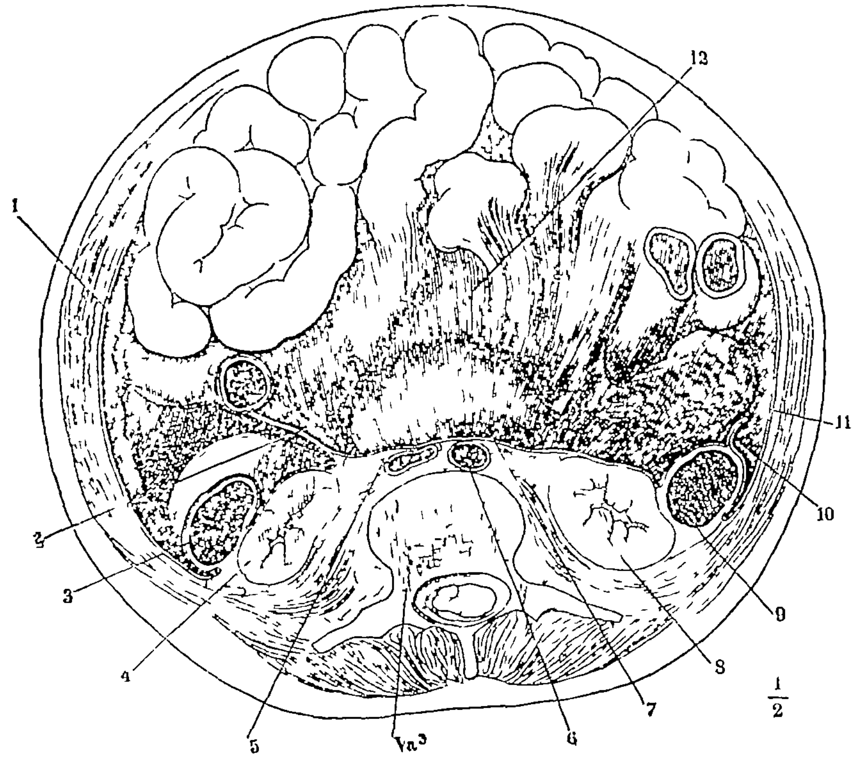

Fig 89 (after Henle 1878) represents a horizontal section of the abdomen between the third and fourth lumbar vertebræ The upper section the small intestines are spread out forward 1, border and under surface of the liver 2 section of the mesentery 3 colon dextrum 4, right kidney 5 vena cava 6 aorta, 7 the lower transverse portion of the duodenum shimmering through the mesentery 8 left kidney 9 colon sinustrum 10 appendix epiploocus of same 11, parietal layer of peritoneum 12, under surface of the mesentery Observe that Henle, the greatest of modern anatomists draws in the sketch no mesocolon, right or left

In my opinion to Meckel belongs the chief credit of the coalescence theory (1817) and Muller in 1830 simply confirmed his views and enlightened the world as to the origin and development of the great omentum Yet it is not necessary to believe that even such celebrated men as Meckel and Muller could not make mistakes I have read with care and pleasure Muller's article on the "Origin of the Great Omentum," written in German in 1830 I find that even Muller could labor under errors For example, Muller states that the mesogaster ceases at the point where the duodenum begins Any one can easily disprove this statement by opening a human embryo at six weeks or, still better, a dog or cat, whence in all three cases it will be plain and easy to see that the mesogaster extends all the way down the duodenum to the junction with the ileum The mesogaster includes the mesentery of the stomach and duodenum Hence one of Muller's errors is pointed out and corrected Again, Muller noted that at first the mesogastrium arises in the mid-dorsal line, but with the change of the position of the stomach it becomes shifted toward the left This is also an error of Muller, for the insertion of the mesogaster is always in the mid-dorsal line Any one can prove that the mesogaster is always in the mid-dorsal line by opening up an adult cat, when it will be found that the mesogaster has never varied from the mid dorsal line In adult man, it appears that the mesogaster is not in the middle line, but that is owing to a displacement of the serous membrane toward the left or, as the coalescence theorists would have it, the left blade of the mesogaster has coalesced with the dorsal parietal peritoneum Hence, it is plain to observe two errors of Muller Again he asserts that the coalescence (verklebung) between the anterior blade of the great omentum and the upper blade of the transverse mesocolon can be easily divided in embryos of the third and fourth month Whether this be an error or not, I will say that I never found this condition of re-dividing or re-separating the coalesced membranes possible in any embryo of any age Since we have found several palpable errors in Muller's noted essay of 1830, is it not possible that he was in error (and his followers) when he announced the confirmation of Meckel's theory of coalescence of the anterior blade of the great omentum with the upper blade of the transverse mesocolon? It must be admitted, however, that when a very accurate and keen investigator like Toldt of Vienna, lends his voice and pen to aid in supporting the theory of coalescence, it demands prudence and caution in opposing it Respectful attention to the arguments which make its "rock base" are called for

In regard to the theory of displacement of the peritoneum in producing acquired mesenteries much may be said I was led to the theory of displacement by my labors on the dog's peritoneum and viscera It was by watching the beginning of the rotation of the intestinal loop as may be well observed in the dog, cat and human embryos which led me to the view of displacement of serous surfaces instead of their destruction in the formation of new or acquired supports The convincing impression of displacement of serous membranes may be acquired to perfection, by observing how the left end of the great bowel moves up or pushes up the serous layer on the left surface of the duodenal mesentery It leaves intact the *membrana mesenterii propria*, but raises its serous endothelial layer as this blind end of the bowel moves onward and downward in its travels The process is beautifully observed in the slight rotation of the bowel found in early embryos or in the adult cat and dog Yet it is not so easy of *interpretation*

As supports to the theory of displacement we may say

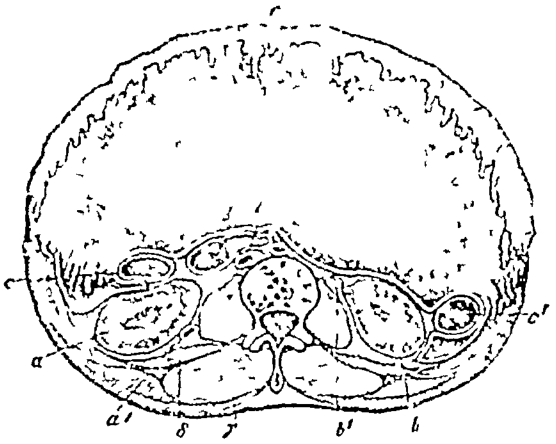

Fig 40 (after Abey, 1871) represents a cross section of the abdominal cavity at the root of the colon transversum Adult, one fifth natural size The upper surface *a* right and *b*, left kidney *a*1 and *b*1, the ureters *c*, cross section of ascending colon, and *c*1, of the descending colon *d*, duodenum *e*, transverse colon, *B*, vena cava and aorta Notice in the figure how this Swiss anatomist sketches no mesocolon, right or left, in the drawing S, quadratus muscle The peritoneal line in the figure is drawn white

1 Coalescence of any epithelial surface is an unusual matter and even rare (without inflammation)

2 The serous endothelial layer rests on a loose bed of soft, pliable connective tissue which endows the real peritoneal layer with an extensive gliding power I have practiced in cadavers to see how far one could shove the endothelial layer on the subperitoneal tissue and was surprised to see how far the upper layer would shift on the lower The endothelial layer will glide extensively on the subserous tissue In the dead, it is easy in many parts to shove the serous layer over an inch on the subserous Hence, by slow forcing, the serous endothelial layer can be easily and extensively displaced and the slow traveling of the cecum would give ample time to displace the right serous layer of the mesoduodenum, *and sufficient* time to displace *and drag out the* serous peritoneal pouch which exists between the anterior blade of the mesogaster and the upper blade of the transverse mesocolon It appears more reasonable to suppose the above recessens peritonei becomes obliterated by coalescence and consequent *destruction* of the

3 As an actual fact in favor of the displacement theory, I can only find two distinct peritoneal blades in the ligamentum gastro-colicum and only two distinct blades in the transverse mesocolon The four layer affair of the mesocolon is no doubt an interpolation made to help out and fit the coalescence theory of Meckel

4 It does not appear to me to be reasonable to consider the serous endothelia as not genuine, as simply connective tissue cells, ready at any moment to "physiologic coalescence," and at a chance obliterate a man's peritoneal cavity Wherein lies the intelligence of these non genuine endothelial connective tissue cells to refrain from obliterating the serous abdominal cavity? Why do they simply act in the great omentum and sigmoid? Is it heredity or life's *inscrutable method of progress?*

Finally, I mention here two *points* which I have carefully examined The first is a certain white line found most distinctly on the left side of the sigmoid flexure This line is interpreted by Toldt to be the evidence of coalescence of the left blade of the left *mesocolon with the layer of peritoneum on the dorsal* wall The facts in the *case appear to me to* be insufficient to establish the theory However, the white line can be definitely observed, it is the interpretation of its existence which we await It seems to me the line is evidence of displacement just as much as coalescence I have often noted that when peritoneum turns from *one* surface to another, *e g* , at the duodenal flexure it may show a white line

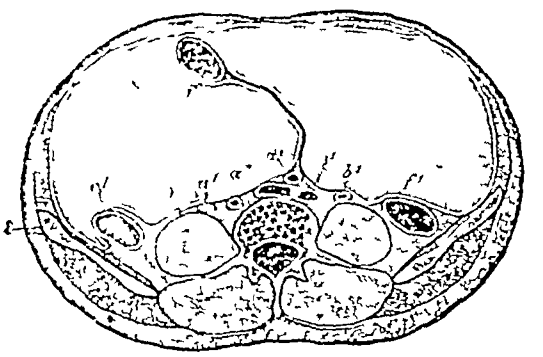

Fig 41 (after Abey, 1871) represents a cross section of the body in the region of the iliac crests, just high enough to strike a full section of the mesenterium or the small intestine A part of the iliac crests are cut among *e* as shown in the figure Adults one fifth natural size, lower surface c¹ descending colon of small intestine f¹, lower end of ascending colons quadratus muscle A¹ and b¹, ureters a¹, a", common iliac arteries B¹ vena cava showing its septum of division preparing to divide into the two iliac veins Observe no peritoneal coverings drawn on the posterior surfaces of its vertical colons The peritoneal line in the figure is sketched white The section occurs below it—both kidneys, so that only the ureters appear in the figure slightly differently located

Again, I have frequently found in the dorsal peritoneum of both sides, but most frequently on the left side, small depression or pockets of peritoneum which would admit the point of a pencil or an object up to the size of the thumb These pouches are lined with peritoneum, serous endothelium Toldt again interprets these retroperitoneal pouches as evidence of progressive coalescence I interpret them exactly opposite, as being simply the product of a *local* peritonitis This local peritonitis may have *originated by a gut lying on the place for some time* and allowing its microbes or products to pass through the wall and infect the peritoneum locally This is apt to occur as the dorsal peritoneum is immovable and could not get away from any infected *bowel* The above two points are *placed outside of the systematic argument* as I consider the interpretation of them as not yet settled No adequate explanation of the great length of the omentum has appeared

THE LESSER OMENTAL CAVITY

Lesser sac or bag of the peritoneum, cavity of the great omentum, cul-de sac, or diverticle of the peritoneum, bursa omentalis, baccus peritonei, retrovertıcularis

The lesser omentum is formed by elongation of the mesogaster toward the left side The sac is at first situated behind the stomach, but later extends between the stomach and colon down in front of the small intestines, as far as the pelvis At first the lesser omental sac is a mere depression in the right surface of the mesogaster, with development and elongation of the mesogaster, the depression in its wall deepens until the circumference of the depression contracts into a neck, the hiatus Winslowii The atrophying liver drags the neck of the sac Winslow's foramen to the right of the median line by means of the ligamentum hepato-duodenale The posterior wall of the lesser omental cavity is the two-bladed mesogaster and the ascending double layered omentum and the upper layer of the transverse mesocolon The anterior wall of the cavity is the posterior wall of the stomach above and below the two converged serous layers from the stomach descending to the pelvis, whence the layers return on themselves to the transverse colon, which by dividing, they embrace, and again converge to form the transverse mesocolon and then pass to the posterior abdominal wall The left end is closed in by the blades of the mesogaster while the right end converges to a small neck, orificum epiploon The lesser omental cavity is almost perfectly observed in a child of the first year or in a cat or dog of the first year Even in early adult life the lateral edges begin to coalesce from local peritonitis

To trace the exact lining of the adult lesser omental sac, begin at the transverse fissure of the liver and pass along the under surface of the lesser omental sac (see figure), to the small curvature of the stomach, thence along the posterior surface of the stomach to its greater curvature Now, pass along the posterior surface of the posterior blade of the great omentum to where it turns upon itself in the pelvis and follow it upward to the transverse colon, thence to the dorsal wall along the upper blade of the transverse mesocolon The single upper mesocoloic blade now turns upward and ascends over the pancreas, thence along the dorsal wall as far as the coronary ligament of the liver, whence it returns to the transverse fissure of the liver where we started To trace the left wall of the sac is very easy by beginning at the right side of the right blade of the mesogaster and passing to the left to the spleen and ligamentum gastro-lienalo, thence back to the greater curvature of the stomach The right end of the sac is constructed to a small neck, foramen primum bursa omentalis, omenti minoris, lessening the size of the sac The shape of sac is that of a collapsed grain-bag with its neck constricted With care it may be blown up, by forcing air through Winslow's foramen The size of the sac is perhaps one-quarter of the size of the skin surface of the body, as the peritoneal surface is probably equal to the skin surface The walls of the lesser sac are composed of double blades of peritoneum, except where the posterior surface of the stomach and upper surface of the transverse colon intervenes, where only a single layer of peritoneum exists A slight piece of spleen forms also an exception If one introduces the finger into the neck of this sac, Winslow's orifice, in young subjects, it will pass first into an ante-room which contains Spigel's lobe This space is smooth, closed in front by the pars flaccida of the lesser omentum and is about the size of the fist in an adult If now the finger be pushed further on it will pass through a second and larger foramen, foramen bursa omentalis majoris (Huschke's foramen) whence the finger enters into a wide space, a pendulous bag, smooth and moist on its surface The bag extends to the left side and to the pelvis

On opening the lesser omental bag at a point between the stomach and colon, we observe a sleek shining peritoneum lining the whole sac The inside of the sac extends to the left costal wall in the ligamentum phrenico-colicum It extends to the right as far as the flexura coli hepatis and also passes on down the ascending colon to a various extent This right part of the great omentum is known as omentum Halleri

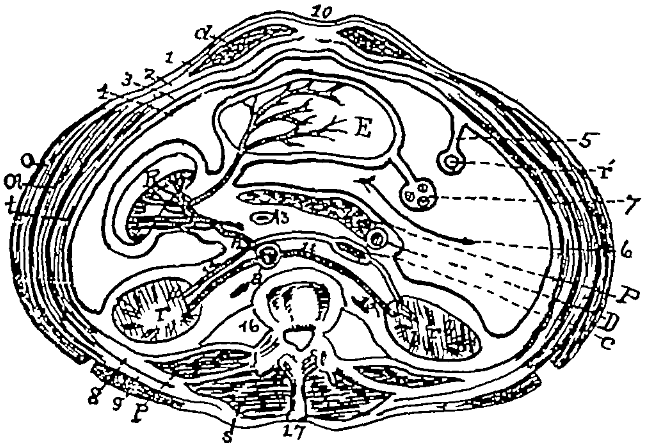

Fig 42 (after Debierre 1890 modified) represents a cross section at the 1st lumbar vertebra to show the disposition of the peritoneum The line of the peritoneum the artist has drawn in heavy black r, kidney R spleen e stomach r¹, round ligament of liver D duodenum in association with the pancreas P c vena cava a aorta 8 transversalis fascia 4 parietal peritoneum 5 filiform ligament of liver 6, hiatus of Winslow 7 right border of gastro hepatic omentum containing portal vein hepatic duct and hepatic artery 11 venal arteries going out of aorta a 12 splenic artery 13, splenic vein 14, venal vein 15 pillars of diaphragm 16 psoas The diaphragm does not show the spleen uncovered by peritoneum on the posterior border as my dissections induce me to think is a normal condition It is also uncovered at the hilus to transmit sustaining structures

In the lesser omental cavity, just to the left of the septum bursa omentalis, I have found varying folds and peritoneal projections due to muscular action of the left crus of the diaphragm inducing local peritonitis These projections are so frequent in adults as to call for mention The lesser omental cavity is divided into two compartments (in some I noted three compartments) The division is caused by a fold of peritoneum projected into the sac by the gastric artery and to some extent by the gastric vein The fold is one to two inches high and distinct in every body which I have examined The fold reaches to the upper border of the pancreas and is called the ligamentum gastro-pancreaticum (Huschke) As this fold divides the lesser omental cavity into departments it may be called the septum bursa omentalis The fold or septum separates the visceral part (Spigel's lobe) of the lesser omental sac from the non-visceral or empty part The right portion of the sac called the bursa omenti minoris contains Spigel's lobe of the liver and its anterior wall is mainly the pars flaccida or middle portion of the gastro pation of the gland and from thyroid feeding, as well as from ingestion of thymus, considered as antithyroid in its action It can not therefore be said to have developed as yet any absolutely scientific and unempirical method for all cases

The alleviation of the disease by the cardiac tonics is still a constant experience of practitioners and indicates that we are not yet ready to altogether reject the other symptomatic treatment

CHOLERA IN THE PACIFIC

A ripple of excitement has been created in sanitary circles by the news of cholera in the Sandwich Islands, its spread in Russia, China, and Japan, and its invasion of Corea, to say nothing of the reported cases at Grimsby in England As early as July 25 last, Passed Assistant Surgeon WILLIAM G STIMPSON U S M-H S, was led to treat the British steamship *Antwerp City*, as a cholera-infected vessel on her arrival at Port Townsend, Wash, from Hiogo, Japan, but the port authorities of San Francisco seem to have been "caught napping" by the steamer *Belgic* last week, which vessel obtained free pratique through gross misrepresentation of the events of her voyage It remains to be seen what action will be taken with her officers should she again enter the Golden Gate

There is, probably, no serious ground for apprehension in the present situation, but the JOURNAL can not refrain from warning against a too implicit reliance on quarantine restrictions to protect this country against an invasion of the disease Both the Atlantic and the Pacific seaboards are now threatened, and the ease with which the passengers of the *Belgic* passed through the San Francisco quarantine, from a vessel which is now known to have had three cholera deaths on board during her voyage from China, shows again what an elaborate system of leakage the quarantine of the period may prove to be

We must repeat our lesson of a few weeks since, we may not be able to shut out cholera from our shores by quarantine, but we can and should make our environment so wholesome and cleanly as that it shall be fatal to the cholera germ as well as to the germs of all other filth diseases And in this connection it is well to remind sanitary and civic authorities that wherever typhoid fever exists and flourishes, there also may Asiatic cholera exist and flourish

There is a warning in this for many of our American cities Pittsburg, for example, where typhoid is again epidemic, and in a multitude of smaller places in which the disease is now prevailing with more than its usual autumnal increase The aspiring western metropolis, Chicago, is by no means beyond the danger line in this respect, the almost constant presence of the disgustingly suggestive *coli communis* in its public water supply is pregnant with meaning to the sanitarian, and the city is absolutely without any sort of hospital provision in case of any epidemic but one of smallpox Even if the new isolation hospital were ready for use—which it will not be for many months—it would be wholly inadequate for the needs of nearly one hundred and ninety square miles of territory There should be a supply of the small portable hospitals provided at once—hospitals capable of receiving eight patients each, complete in themselves and ready to be set up in any epidemic center in an hour's notice When a thing of this sort is needed, it is needed at once Epidemic diseases don't usually wait to give warning and allow time for preparation Chicago's Health Department should take immediate action in this matter—not especially with reference to Asiatic cholera but to the epidemic diseases in general

THE INSANITY OF CONDUCT

In the discussion of a paper read before the British Medical Association at its recent meeting, DR CHARLES MERCIER laid down the following four propositions which have an important bearing as regards the medico legal relations of mental disorder 1, that there are cases in which insanity is evinced by conduct and can not be established from mental disorder alone, 2, that there are cases in which disorder of the mind exists without insanity, 3, that therefore insanity is not essentially a disorder of the mind nor ought insanity and unsoundness of mind to be used as convertible terms, 4, that our conception of insanity is not complete until it is understood to include as a necessary and integral element, disorder of conduct

While the limitations of the term "mind," as here used may be questioned, it seems well to state these propositions as including a valuable truth that has not yet penetrated to any extent the intricacies of the legal intellect Conduct is simply a concrete manifestation of mental action, and therefore when absolutely irrational, though assisted with apparently perfect and even brilliant intellection may be a very clear evidence of insanity, entirely apart from delusions or other common symptoms of mental disease Purposed and elaborated actions are evidence of the functioning of the intellectual organs of the brain as much as motion is of that of the motor centers, and when they are disordered and irregular in their type, they mean mental disorder as truly as do incoherent or irrational speech, indeed far more than the latter, which is a possibility with the perfect retention of the judgment and control of conduct that are the essential elements of responsibility and sanity These may be deficient or absolutely lacking with the most perfect and brilliant intellection, and the condition be only revealed by irrational acts That which is self-evident to an alienist and psychologist seems to be one of the most difficult of all truths in its practical application

A man may make himself a public and private nuisance, a laughing stock to the rabble, and even very dangerous in his eccentricities to himself and others, provided he can talk rationally before the court all the evidence is swept aside as worthless, as compared with that which is under the eyes or perhaps we should say the ears, of the legal experts Even if committed to an asylum, especially if he possess legal knowledge or have officious legal friends, it is impossible to hold him, notwithstanding the fact that his insanity is essentially one from which society most needs protection Dr Ray gives a very striking account of a case of insanity of conduct of this kind, our knowledge of it is, therefore, not a recent acquisition, instances are indeed of not infrequent occurrence, but its legal status is as yet undefined and its settlement is one of the social needs of our day This, however, can only be effected by a general psychologic enlightenment of the legal profession, not perhaps a result to be hoped for in the very near future

THE "NEW AILMENT" (SCHNEIDERITIS) OF LONDONERS

According to the *Sanitary Record* for July 26, the condition of the streets of London, brought about in part by the prolonged dry weather, and in part by the kind of materials used for street paving, have caused not a little irritative trouble which for convenience has been termed the "new ailment" The *Record* also, in this same connection, calls aloud for more water in cities, especially in London, the supply of water in that city has never yet been as lavish as it should be, and not at all in keeping with its many other civic improvements London has not enough drinking fountains for the public, and no very definite legislation compulsory as to the laying down of water pipes for rented properties In other words, London has shown itself backward in procuring a sanitarily lavish supply of sweet pure water

The *Sanitary Record* says

"The question of the best kind of material for the pavements of the London streets is not unlikely to be again agitated, if there be truth in the view that what is called the 'new ailment' is due to the deleterious action of the *débris* that accumulates on the wooden pavement now in general use The mucous membrane of the nose, which is the part chiefly affected in the ailment, becomes inflamed and thickened, and the blood vessels that ramify through this membrane become turgid, with the consequence that bleeding is set up on very slight provocation

"The immediate occasion of the outbreak has apparently been the prolonged dry weather, that has proved injurious to many things beside the mucous membrane of the nose and it is believed that the affection is due to the innumerable minute particles of straw and other organic substances that naturally accumulate when there has been no sufficient flushing of the pavements by rain or otherwise Now that the weather has changed, we may hope to hear no more of this trouble, but its presence is one more illustration, on the negative side, of *the extreme value of rain as a hygienic agent* It may not always be pleasant, but it is health-bringing

"'Water is best' The truth of that old Greek adage is continually receiving fresh illustrations But it has not yet taken a firm hold of all the members of the community—even of all sanitary authorities For complaints have still from time to time to be made regarding the *inadequate supply* of water furnished for the wants of the people, for *drinking*—which is a kind of flushing of the human body—for *bathing*, for *washing*, and for the essential purposes of *drainage* And the specific complaint is being made, we observe, that in the administration of the Public Health Acts, the clauses that refer to the matter of water supply are interpreted without due regard to the public welfare

"Every owner shall provide a water supply at or near There is a delightful elasticity, it will be observed, in this word 'near,' which enables it to lend itself very readily to various interpretations And it is complained that in the interpretation of the word some sanitary authorities have been neglectful of their duty, in not insisting that a supply shall be furnished even when it is reasonably required Cost must, of course, be considered It is not to be expected that, whatever may be the expense, water is to be introduced wherever it may be thought needful But individuals and communities alike can not easily learn any wholesomer lesson than that wise expenditure in such matters is the truest economy"

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION

The meeting of the Mississippi Valley Medical Association at Detroit was characterized by unusual harmony and the papers presented were above the average Professor Pepper's Address in Medicine which we shall have the pleasure of presenting to our readers in full next week, was a masterly eulogium of Daniel Drake, and a faithful portrayal of the marvelous changes that have taken place in the great Interior Valley since the time of Drake

The popular author, the grandeur of the theme, the audience comprising the descendants of those hardy pioneers who have made the valley what it is to day, and the historic city in which the meeting was held all conspired to make it an occasion long to be remembered in the civic annals of Detroit and the whole valley

The other addresses were excellent, notably the address of President Wishard and the address of Professor McGraw which we publish in this issue

The Committee of Arrangements, under the admirable management of Dr H O Walker, left nothing undone that could add to the international reputation of Detroit as the hospitality center of the communities living on the Great Lakes

The election of Dr H O Walker to the Presidency was a public testimony to his high standing in the

Association, and is an honor which he has worthily won

The selection of Minneapolis as the next place of meeting was wise, and gives assurance in advance, if any were needed, of the prospective success of next year's meeting

CORRESPONDENCE

A Philological Problem from Philadelphia.

Philadelphia, Pa, Aug 15, 1895

To the Editor —In one of the latest numbers of the Journal is an extract from the *Deutsche Medicinische Wochenschrift* on "The New Anatomic Nomenclature," and the number also contains an editorial commendation of the idea In reading the extract I note that, "it was resolved that the terms should be in one language, that is, Latin designations only The names shall be Latin, and etymologically correct"

That promises well, but when I look at the examples given by the Journal I find the first one given to be "*osteologia*," a pure Greek word, with nothing Latin about it! Liddell and Scott define *Ὀστεολογια* as "the science which treats of bones" "Splanchnologia" and "angiologia" are also Greek, from *Σπλαγχνον* viscera, and *Ἀγγειον* a blood vessel, respectively, and these are not the only examples

I do not wish to be considered a captious critic, but isn't it rather singular that a *nomenclature* which *professes to contain* only Latin terms, and those etymologically correct, should bristle with so many pure Greek words?

Very truly yours, D W Neal, M D

Answer —We do not dispute the Greek origin of the words mentioned, but they are transferred words, and used in Latin with entire propriety Osteologia is given in Foster's Medical Dictionary as a Latin word Leverett's Latin Lexicon gives osteologia as the Latin synonym for the English word, osteology So also does Wm Young *in* his Latin English Dictionary Nearly all scientific words used by the Latin writers were transferred bodily

A Question of Ethics

Oran, Mo, Aug 8, 1895

To the Editor —Will you kindly answer the following question in your next issue

Is it unprofessional or not, to divide your fees with "Granny women?" I have a colleague who gives his assistant midwife $1 while he takes $9 for his obstetrical fee I told him that it was the business of the patron to pay the fees of both physician and nurse, and that when a physician divided his fees with would-be midwives it looked very much like "drumming" for practice Please answer and oblige,

Very respectfully yours, W P Howle, M D

Answer —*The dividing* the fee *in* an obstetrical case with the nurse or other attendant is in the nature of drumming for practice, or the acceptance by the physician of a percentage from an apothecary No self-respecting physician should indulge in such methods

A Staunch Defender

Atlanta, Ga

To the Editor —The sanious exudation from a gangrenous ulcer does not indicate more clearly its true character, than does the utter disregard of correct principle show the reviewership of the communication in your number of August 24, headed, "The Code, Once More," and signed "Amicus Veritatis"

It should have had for a caption, "No Code," and for signature, "Vox Asini" Respectfully, Virtus

BOOK NOTICES

The Cell, Outlines of General Anatomy and Physiology —By Dr Oscar Hertwig, Professor Extraordinarius of Anatomy and Comparative Anatomy, Director of the II Anatomical Institute of the University of Berlin Translated by M Campbell and edited by Dr Henry Johnstone Campbell, of London With 168 illustrations, 8 vo, cloth, pp 368 Price, $3 London Swan, Sonnenschein & Co New York MacMillan & Co 1895

The author has in this book not only prepared a supplement to his work on embryology, but has endeavored to fix the scientific standpoint at present occupied by the doctrines of cell and tissue formation

Much in the book is necessarily theoretical, and may yet be changed by the adv*ance of science, for as the author well* says "The cell is a *marvelously* complicated organism, a *small universe, into the construction of which we can only* laboriously penetrate by means of microscopic, chemicophysical and experimental methods of inquiry"

"In many respects," says our author, "the cell theory is the center around which the biologic research of the present time revolves," and while he admits with Max Schultze that "the protoplasm of plants and animals and the sarcode of the lowest organisms are identical," and that the term "cell" is incorrect, he yet retains it under the definition that the "*cell is a little mass of protoplasm,* which *contains in its interior* a specially *formed portion*, the nucleus" The chemicophysical and morphologic properties of the cell are first described, and then the vital properties are treated of These include 1, Contractility, 2, Irritability, 3, Metabolism, 4, Reproduction The work concludes with a chapter on "the cell as the elementary germ of an organism," and "*theories of heredity*" This book, then, is seen to deal with one of the most important of all the fundamental problems of biology, and we can commend it to the readers of the Journal as embodying in entertaining and easily understood language, the most advanced theories concerning the anatomy and physiology of that mass of protoplasm which we term a cell, and of its nucleus, which in the present state of knowledge we must regard as the true elemental organ of life

Parvin's Science and Art of Obstetrics, the Science and Art of Obstetrics By Theophilus Parvin, M D, LL D, Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia New (3d) edition In one very handsome octavo volume of 677 pages, with 267 engravings, and 2 colored plates Cloth, $4 25, leather, $5 25 Philadelphia Lea Brothers & Co, Publishers 1895

The publication of the new edition of Parvin's standard treatise emphasizes well the fact that it has for some years supplied the need for a new text-book from the great Philadelphia school The University had Dewees and Hodge, and Jefferson had Meigs The long sway held by Meigs at Jefferson and the great popularity of his text-book, based as was on elegance of style, quaintness of expression, keen o servation and natural eloquence, made it rather difficult f Professor Parvin, but it must be conceded that he well fill the vacancy His scientific knowledge, his wide range information and his vast acquaintance with general liter ture, enabled him to prepare a book that is not less ente taining from a literary standpoint than from a professiona one Much valuable historical matter finds a place in th volume

Old members of the Association will recall with pleasu that Professor Parvin presided at the thirtieth annual mee ing at Atlanta in 1879, and will rejoice to see that althoug more than a quarter of a century has elapsed, the venerabl ex-President revises and largely re-writes a work whic shows him still in the foreground in his chosen field of med ical science

Modern Medicine and Homeopathy By John B Roberts A M, M D 16 mo, cloth, pp 72 Price 75 cents Philadelphia The Edwards & Docker Co 1895

It is with pleasure that we record the publication of the two essays of Professor Roberts in a form more convenient for preservation and reference than the Transactions of the Society in which they were read, or even our beloved Journal in which one of them was previously printed These essays, which are written in a spirit of friendliness to our erring brothers, have given rise to some controversy, on the ground that Dr Roberts has to the homeopathists been

'To their virtues very kind,
To their faults a little blind,"

but it is evidently in a purely philanthropic spirit that the essays were written, and they have very appropriately emanated from the City of Brotherly Love, and Dr Roberts

Those who wish to become acquainted with the peculiar tenets of the homeopathic sect, in their relations with modern medicine will do well to procure this little work—which, while giving the points in which ' homeopathy" still adheres to the teachings of modern medicine, sets forth clearly and without abuse, the fallacies and distorted views held by some of the sectarians under consideration

The Pocket Materia Medica and Therapeutics —A Resumé of the Action and Doses of all Officinal and non-Officinal Drugs now in common use By C Henri Leonard A.M, M D, Professor of the Medical and Surgical Diseases of Women and Clinical Gynecology in the Detroit College of Medicine, member of the American Medical Association, etc Second edition, revised and enlarged Cloth large 16 mo, 367 pages, price, postpaid, $1 Detroit The Illustrated Medical Journal Co, Publishers 1895

The second edition of this popular therapeutic work has had sixty seven pages added to it, beside typographical errors corrected, etc A new and complete cross-index has been prepared, which renders the quick finding of a non-familiar drug possible This is an important feature lacking in many ready-reference books The metric doses have been given throughout and the book has been brought up to date Its alphabetical arrangement makes it very convenient for reference

PUBLIC HEALTH

How to Prevent the Sale of Hurtful Cosmetics —Notwithstanding all that has been published regarding the poisonous nature and injurious effects of the nostrums advertised to improve the complexion, still their sale goes bravely on It is everywhere a difficult traffic to control, but the police of Berlin have hit upon an ingenious way of putting a stop to their sale, without invoking the law against the advertisers They insert in all the papers of the city a notice stating that they have caused an analysis to be made of this or that preparation, and that its ingredients are so and so, and they also add the intrinsic value of the ingredients In one celebrated preparation, they showed that a compound that cost 1 cent was sold for $2 50 a bottle They do not concern themselves with non-poisonous nostrums

Seaboard Precautions as to Cholera.—The August issue of *Public Health* (London) quotes from the Annual Report of Dr D S Davis, Health Officer of Bristol England, his observations regarding the theory of maritime precautions for exposed cities against cholera Dr Davis' report for 1894 offers the following points germane to conditions existing in England

'The aim of medical inspection, which has supplanted quarantine in England as a means of dealing with imported cholera, is briefly as follows

'1 By medical inspection of persons arriving to detect *actual cases of cholera* and to secure proper isolation of patients in hospital, and disinfection of their belongings, and of the berths or places they may have infected

"2 By the same medical inspection, to detect *cases apparently sickening*, and so to isolate and watch them

"3 To *notify forward* to the sanitary authorities of the districts whither they are bound, the names and addresses of the rest of the crew and passengers, who are apparently well, but who may possibly have the disease in an undeveloped form The responsibility of watching and caring for any cases which may develop after arrival at their destination devolves upon the respective sanitary authorities having charge of such districts

'In short, medical inspection *deals with actual and probable cases* but can only *notify forward possible cases* Herein it differs from quarantine, in that no cases except actual or threatened cases are detained at the port of arrival nor is the vessel detained when a hospital is available except a reasonable time for purposes of disinfection, and in that the responsibility of dealing with any cholera that may arise is shared not only by port districts, but by inland districts, to which some one of the cases allowed to go forward may take the disease But such inland districts have the advantage of being forewarned, and any spread of the disease must be a measure of their own neglect.

'Fortunately, the incubation period of cholera is generally short (a few days only), so that a long distance ship with no recent cases on board involves, as a rule little danger" This is in effect the American practice, and it has taken the British all these years to learn that although we still use the word ' quarantine" we long ceased the practice of detention *per se*

Heredity of Tuberculosis —At a recent meeting of the *Societe de Biologie*, of Paris, MM Bar and Renon presented a communication concerning the results of their efforts to elucidate the question of direct transmissibility by the placenta of the bacillus of Koch from the mother to the fetus in the human species M Bar had, in five instances, obtained at the moment of birth a certain quantity of blood as it flowed out of the placental end of the umbilical vein, and injected it at once under the skin of the abdomen of guinea pigs In three cases the results were negative—that is, the animals did not become tuberculous—but of the remaining two, one was that of a woman in the third stage of consumption, and whose expectoration contained the tubercle bacilli of Koch She was delivered of a fetus that had died the day previous, the placenta did not present any apparent lesions The blood flowing from the umbilical vein was injected into a guinea pig, which succumbed two months later from tuberculosis of the liver and spleen No signs of tuberculosis were discovered in the organs of the fetus on necropsy However, the pulp of the liver and lungs was injected into two more guinea pigs, both of which succumbed with all the signs of tuberculous infection, ulcer at the seat of inoculation, granulation of the liver and spleen, etc In the second case, the mother had large pulmonary vomicæ but the expectoration had not been tested The child died on the fortieth day from broncho-pneumonia At the moment of birth the blood of the umbilical vein was injected into two guinea pigs One of the animals lived while the other succumbed with a chancre of inoculation and a generalized visceral tuberculosis

We note that some of our foreign exchanges profess to regard these results as conclusive of the heredity of tuberculosis—the Paris correspondent of the *Medical Press* of the 21st ult, for example, asserting that the authors have "discovered the bacillus in the blood of the fetal cord," that the discovery "is, consequently, of the highest interest, confirming as it does clinical observations, and settling the question once and for all" At this distance from France it does not appear that MM Bar and Renon have set up any such claim, on the contrary there is no mention in the correspondent's account of the detection of the tubercle bacillus in anything but the sputum of one of the two women, and it is not definitely asserted that the other had tuberculosis at all—' pulmonary vomicæ" are not always and necessarily tuberculous, although of course, the majority are The question of the heredity of tuberculosis may not be "settled once and for all" in this out-of-hand fashion As thus far made known, the experiments cited are by no means conclusive, and they add absolutely nothing confirmatory of the observations of such students as Baumgarten, Birch-Hirschfeld, Hericourt and Richet Whittredge Williams and others in this field who have demonstrated the direct transmission of the bacilli from the mother to the fetus

Churning the Milkmen —The usual periodical agitation of the milk question is on in great force and vigor this season and it really seems as though *some good results might* accrue The most comprehensive and thorough work has been that of the Special Analytical and Biological Commission of the *British Medical Journal* on the milk supply of London The preliminary report of this Commission was published July 6, and the editorial review is given in the issue of August 24 The closing paragraph is as follows "The moral of the whole matter is that producers and vendors must be compelled, within reasonable limits, accurately and fully to describe the articles which they supply to the public, and that the standard of composition for a natural product such as milk shall not be that of an abnormal fluid yielded by a diseased or improperly fed animal but shall be the normal composition which, within certain well ascertained limits, the mixed milk of healthy and properly fed cows is known to possess 'Milk' does not mean 'thinned milk,' nor does it mean 'separated milk' These, which are, of course, articles of commerce, should be described by their distinctive titles *Condensed milk means condensed whole milk*, and if a preparation which has been obtained by condensing separated milk is called condensed milk, a distinct fraud is perpetrated upon the public If sophistication, adulteration and the production of milk under insanitary conditions are to be suppressed or appreciably minimized, an awakened and vigorous public feeling on the matter is essential It rests mainly with the medical profession to bring this about" Thus far Mr Ernest Hart, and it pretty fully indicates the principal evils which beset the milk supply of most large cities—London as well as New York, Chicago equally with Philadelphia But Dr Gould, in the *Medical News*,[1] is not so sanguine that cow's milk, howsoever pure, will materially reduce the waste of infant life and asserts that, notwithstanding all the improvement that has been effected in the milk supply of cities, ' hand fed babes die in summer now as they did twenty years ago" He thinks that it would be well for medical men to direct their energies toward " bettering or rather increasing the number of human milkers instead of looking for substitutes" "If," he says, ' the time and talent now expended in *endeavoring to obtain a pure supply* of cow's milk were directed to this other question, and the subject freely discussed in the lay press as well as in the medical journals, we would have a lessened infant death rate and the problem 'how and what to feed the baby' would not excite so much attention as it now does" Meanwhile, what the newspapers call the "crusade" against the milkmen is being vigorously pushed both in New York and Chicago and the lower courts of both cities are congested with the multitude of "milk cases" To show that there is need of some such action it is only necessary to cite one statement made by Dr Gehrmann of the Chicago Municipal Laboratory He says he has made no bacteriologic examination of Chicago milk without producing numerous colonies of the unspeakable bacillus coli Mr Sidney Rowland of the English Commission testifies to the same effect This is damning proof of filth of the most disgusting sort in the dairies, the vessels and the water used and on the hands and persons of the milkers and handlers But a municipality can not deal with these horribly insanitary conditions except in an indirect way Six sevenths of the London milk supply, as large a proportion of that of Chicago and a still greater proportion of the New York supply is furnished from territory beyond the jurisdiction of the several cities Only the State can correct this basic evil and that by a rigid sanitary inspection of dairies and milk-producing plants through State Boards of Health and kindred agencies Until this is done and the remedy is applied at the source and beginning of the evil the efforts of municipalities will continue to be ineffectual

Reduction of Diphtheria Mortality —At the recent meeting of the British Medical Association, during the discussion on the antitoxin treatment of diphtheria, statistics were presented from the hospitals of England, Scotland, Munich, Berlin and New York, showing a striking reduction of the mortality from diphtheria under the use of the antitoxin Dr E W Goodall, Medical Superintendent of the Eastern Hospital, Homerton, presented the following results of 241 cases under his own care or observation between January 1 and June 30 of this year

Treated with antitoxin

Under 5	57 cases, of whom	17 died	29 8 per cent
5 to 10	36 cases, of whom	6 died	16 6 per cent
10 to 15	12 cases, of whom	1 died	8 3 per cent
	105	24	22 8

Treated without antitoxin

Under 5	67 cases of whom	30 died	41 7 per cent
5 to 10	46 cases of whom	14 died	30 4 per cent
10 to 15	23 cases, of whom	1 died	4 3 per cent
	136	45	33 6

Prof Dr Von Ranke, of the University of Munich, between Sept 24, 1895, and July 1, 1895, had 163 cases of primary diphtheria, with a mortality of 29 = 17 7 per cent Of these there were 154 cases bacterially diagnosed as undoubted diphtheria, with a mortality of 18 8 per cent The necessity of a prompt resort to the serum is shown in the following figures

Of 10 cases treated on the first day	1 died	5 2 per cent
Of 47 cases treated on the second day	4 died	8 5 per cent
Of 39 cases treated on the third day	7 died	17 9 per cent
Of 19 cases treated on the fourth day	3 died	15.8 per cent
Of 9 cases treated on the fifth day	1 died	11 1 per cent
Of 10 cases treated on the sixth day	4 died	40 0 per cent
Of 15 cases treated on the seventh and later	7 died	46 6 per cent

Mortality of patients according to age

Under 12 months	5, all of whom died	100 0 per cent
Under 2 years	24, of whom 9 died	37.5 per cent
Under 3 years	25, of whom 3 died	12 0 per cent
Under 4 years	32, of whom 4 died	12 5 per cent
Under 5 years	17, of whom 2 died	11 8 per cent
Under 6 years	20 of whom 2 died	10 0 per cent
7 and over	39 of whom 3 died	7 7 per cent

Mortality of primary diphtheria in former years

1887	42 2 per cent	1891	46 0 per cent
1888	48 0 per cent	1892	56 2 per cent
1889	46 5 per cent	1893	46 0 per cent
1890	47 9 per cent	1894	57 0 per cent

Since beginning serum treatment 17 7 per cent

The mortality has, therefore, been reduced considerably more than one-half from that of the best ante-serum year and more than two-thirds from that of the worst Prof Dr A Baginsky, of the University of Berlin, reported that during the past year he had treated 525 cases of diphtheria with serum Previous to the introduction of this form of treatment the mortality had, during four years, averaged 41 per cent When the cases come to be examined in detail the improvement is even more striking

Of cases	Previous Mortality Per cent	Present Mortality Per cent
Under 2	63 30	25 20
2 to 4	52 85	17 12
4 to 6	37 00	17.24
6 to 8	27 41	11 39
8 to 10	19 35	5 11
10 to 12	15 07	10 00
12 to 13	13 00	0 13

As to the general condition of the patients, Dr Baginsky considered that the serum treatment not only reduced th mortality, but that the general condition of the childre was improved, that there was very much less danger fron heart disease, that there were fewer cases of nephritis that there was less danger of laryngeal stenosis—no case i his experience ever having had laryngeal obstruction unles this condition had already begun, and that intubatio was always possible, whereas under the older treatmen tracheotomy was very often necessary Finally, Dr Herman Biggs, Bacteriologist to the New York City Board o Health, stated that he had had under his charge between 40 and 500 cases of diphtheria which had been treated wit antitoxin in their own homes These had all been sever cases and the mortality had been slightly over 16 per cen The mortality for the whole of New York, he added, had bee reduced over 40 per cent Dr Biggs then dwelt upon th importance of the antitoxin in preventing the spread of th disease by rendering those who were exposed to the infection immune In one hospital there had been 107 cases o diphtheria in 108 days, immunizing injections of the seru were then resorted to with all the inmates—200 units of Behring's preparation being used in each case During the next thirty days only one very mild case occurred, in the following thirty days another mild case occurred and then five more Injections of 225 units were then used and there were no more cases The same result was obtained in three other institutions and the value of the immunizing power of the antitoxin was conclusively demonstrated The speaker concluded by saying that in over eight hundred subjects treated for the purpose of rendering them immune he had in no case observed any unfavorable symptom, in a few cases rashes, apparently urticarial in nature had occurred on the eighth day, and in some there had been a temporary rise in temperature which, however, had in no case resisted treatment more than twelve hours

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[1] The Milk Question, Aug 31, 1895

Smallpox Epidemic in London —The belief which was expressed about the middle of August that the epidemic manifestation of smallpox in London had reached its highest point, with 327 cases under treatment on the 10th of that month—proves to have been not well founded A cable dispatch of the 3d inst announces that the disease has been officially declared epidemic in the east districts, in which there were 182 cases under treatment on the 2d inst This rapid increase of the disease during the summer season excites grave apprehension as to its possible extent during the approaching cold weather, and the Local Government Board is putting forth every effort for its suppression before winter So far as can be ascertained the disease first manifested itself in Whitechapel, and the *British Medical Journal* of August 24, significantly adds, in this connection "For some time past the Board of Guardians have not enforced the [vaccination] act, there being a majority of anti-vaccinationists on the Board"

SOCIETY NEWS

Medico Legal Congress —Dr Forbes Winslow, of London, sailed on August 24 from Southampton and will preside as chairman over the Department of Insanity and Mental Medicine at the Medico-Legal Congress, held at the United States Court Room, Post Office Building, New York on September 4, 5 and 6 He will also read a paper at the same congress on "Suicide as an Epidemic" Dr Winslow will make an extended visit in the United States

American Association of Obstetricians and Gynecologists —The eighth annual meeting of this flourishing society will be held in Chicago Sept 24, 25 and 26, 1895 The following is the preliminary program

President's annual address J Henry Carstens, Detroit

Relation of pelvic suppuration to structural changes that may occur in the Fallopian tubes, A P Clarke, Cambridge

Nephrorrhaphies, George Ben Johnston Richmond

Detached fibroids, George H Rohé, Catonsville

A clinical contribution to lateral displacements of the uterus, Edward J Ill, Newark

Appendicitis, A Vander Veer, Albany

Intermediate treatment of puerperal sepsis, A B Miller, Syracuse

Kraurosis vulvæ, a contribution to its pathology and therapeutics, H W Longyear, Detroit

Report of three recent cases in gall bladder surgery, Edwin Ricketts, Cincinnati

Subject to be announced, H E Hayd, Buffalo

Intestinal obstruction following peritoneal operations, A H Cordier, Kansas City

Subject to be announced, S Y Howell, Buffalo

Cure of tubal distension without laparatomy, F A Glasgow, St Louis

Subject to be announced, W B Dorsett, St Louis

Subject to be announced, C C Frederick, Buffalo

Hysterectomy in bilateral diseases of the appendages, giving remote results, Florian Krug, New York

Discussion Vaginal hysterectomy *versus* Abdominal section for pus tubes (*a*), title unannounced, (affirmative) X O Werder, Pittsburg, (*b*), when shall hysterectomy accompany bilateral removal of the appendages? Reuben Peterson, Grand Rapids, (*c*), pathologic and surgical contraindications of the vaginal route in dealing with puriform diseases of tubes and ovaries, Joseph Price, Philadelphia, (*d*) title unannounced, (affirmative) George H Rohé, Catonsville

Discussion Eclampsia *gravidarum* (*a*), Etiology, Frederick Blume, Allegheny, (*b*), Pathology, George F Hulbert, St Louis, (*c*), title to be announced, W H Taylor, Cincinnati (*d*), Prophylaxis, H W Longyear, Detroit, (*e*), Puerperal convulsions *versus* Insanity, W P Manton, Detroit, (*f*), Treatment, J M Duff, Pittsburg, A H Wright, Toronto Thomas Lothrop, Buffalo

Exhibition of various types of rectal papillæ, R T Morris, New York

Subject to be announced, E Arnold Praeger, Los Angeles, Cal

Ruptured interstitial pregnancy, L H Dunning, Indianapolis

Has gynecology received just recognition as a specialty? M B Ward Topeka

Indications for operation in puerperal sepsis, L S McMurtry, Louisville

Pneumo peritoneum, James F W Ross, Toronto

Subject to be announced J B Murphy, Chicago

Subject to be announced, Charles A L Reed, Cincinnati

Subject to be announced M Rosenwasser, Cleveland

The regular program will be issued September 1

J Henry Carstens, President
William Warren Potter, Secretary

Section on State Medicine —Minutes of the proceedings of the *forty sixth annual meeting* of this Section of the American Medical Association held at Baltimore, Md, May 7 to 10, 1895 The first session convened in the *north side* stage room of the new Music Hall at 3 o'clock P M, Tuesday, May 7, the chairman, Dr L H Montgomery of Chicago, presiding and Dr Charles H Shepard of Brooklyn, N Y, Secretary

After registration The next order of business Dr James F Hibberd was requested to occupy the chair pro tem, while the chairman read the Annual Address which was upon motion referred for publication

The first paper was by Dr Henry O Marcy, entitled '*Sanitation in Street Pavement*" Discussed by Drs A L Gihon, Jerome Cochran, G P Conn, C F Ulrich, B A Randall, J A Stewart, D W Cathell, R Beverly Cole, W C Woodward and the author, and referred for publication

The next paper read was by Dr C F Ulrich, on "Physical Training in Childhood and Youth as a Preventive of Disease" which was upon motion of Dr I N Quimby referred for publication

Dr B Alexander Randall read the next paper on "Hygiene of the Eyes and Ears in Schools," referred for publication in the Journal

The following gentlemen were appointed members of the Business Committee to represent the Section during the meeting of the Association Drs George W Stoner, J J Kinyoun and Dr J A Stewart of Baltimore

The paper "Anticipative Treatment of Disease, Organically, Functionally and Specifically," by Dr W G A Bonwill, read by title which was followed by the reading of a paper entitled, "The Proper Relations of National, State, and Municipal Quarantine," by Dr Jerome Cochran Discussed by Drs A G Field, Woodward, Ulrich, Rogers and the chairman and referred for publication in the Journal

Upon motion of Dr Charles H Shepard, seconded by a number of the members, the following suggestion embodied in the address of the chairman was unanimously adopted, and referred to the general session of the Association with the request that it be read there and similar action taken regarding the appropriation As it is in reference to the proposed Department of Public Health, the suggestion is herewith transmitted in its entirety

"That we advise and recommend to the Association in general session, ere its final adjournment, that the perpetuity of the special commitee appointed by the Association in 1891 be continued To memorialize Congress to establish another branch of the Federal Government, known as the Department of Public Health with a medical secretary of same That this committee be clothed with additional substantial authority, and with the request also from this Section that sufficient financial aid from the Treasury of the Association be appropriated which should not be less than his five years, but at the rate he is "pushing to the front" he may complete the remainder of it in a summary fashion This person announces himself as the "President of the American Medical Association of Chicago," which announcement evidently meant to catch the unwary, is one of the basest subterfuges The State Board of Health should revoke the man's license without delay

Wisconsin Has Provided a Cholera Contingent Fund —The Wisconsin Legislature, at its last session, appropriated to the State Board of Health a sum not exceeding $50 000 for the two years ending Feb 1, 1897, which shall be a fund, which, by and with the advice and consent of the Governor, may be drawn upon by said board, and used by it in such manner as may seem to it necessary to prevent the introduction or spread of Asiatic cholera or other dangerous contagious disease in the State Any member of the State Board of Health, except the Secretary, who is engaged in work for the prevention of cholera outside of the city in which such member resides, shall be allowed and paid for the time in which he is actually so engaged, such sum as the Governor may approve, not exceeding $15 per day in addition to traveling and other necessary expenses

Louisville Notes

Health Officer's Report —During the month there were 265 deaths, of which 143 were male, 200 white, 79 married and 138 natives of Louisville The total is 42 less than August of last year Consumption heads the list with 28, typhoid fever and organic heart disease, each 13, inanition, 11, meningitis, cerebral, 12 Eight of those dying were over 100 years of age The annual death rate per 1,000, 15, white (164,261), 14, colored (35,739), 23

G A R —There was a well attended meeting held in the City Hall, of those doctors who are to serve in the coming Encampment Dr Geo W Griffiths, Vice-President of the Executive Committee, addressed those present, emphasizing the necessity of prompt organization

Bloom —Dr I N Bloom has been elected to the Chair of Genito Urinary and Skin Diseases in the University of Louisville, Medical Department Dr John L Howard will direct the workings of the bacteriologic laboratory in the same school

Washington Notes

Health of the District —The report of the Health Officer for the week ended August 24, is as follows death rate per 1 000 per annum, white, 20 40, colored, 28 69, total, 23 06 There was an improvement in the health of the city last week According to the reports received at the Health Department, the deaths fell off 11 per cent as compared with the last report The death rate accordingly fell from 25 95 to 23 06 The improvement was mainly owing to the decrease in mortality among children under 5 years old There was a notable absence of deaths from the dangerous contagious maladies, with the exception of those from diphtheria, from which there were three deaths while no new cases were reported

Secretary Morton's Hygienic Order —An important order, giving full protection to foreign consumers of American meat-products, was issued last week by Secretary Morton It will prevent the exportation of any beef that is not inspected, and will cause the exporters of horse meat so to mark the packages that the nature of the contents shall be apparent The action is authorized by an act of March 3, 1891, amended March 2, last The order follows

"It is ordered that from and after Sept 16, 1895, all beef offered for exportation, whether fresh, salted, canned, corned or packed, shall be accompanied by a certificate showing that the cattle from which it was produced were found free from disease, and the meat sound and wholesome, by an inspector of this department And in order that it may be determined whether all beef exported has been so inspected and found to be sound and wholesome, it is further ordered that the meat of all other species of animals, which for any reason does not bear the inspection tags and stamps of this department, shall be packed in barrels, cases or other packages which are legibly marked in such manner as to clearly indicate the species of animal from which the meat was produced Meat which is not so marked, and which is not accompanied by a certificate of inspection will be classed as uninspected beef, and will not be allowed exportation

"Notice is hereby given to exporters of meat, whether said meat is fresh, salted, corned, packed or otherwise prepared, and to owners and agents of vessels upon which said meat is exported, that no clearance can be given to any vessel having on board said meat until the provisions of this order are complied with J Sterling Morton, Secretary"

Physicians Appointed to Office —The Commissioners have made an appointment to fill the vacancy caused by Dr Austin O'Malley, medical sanitary inspector of the Health Department, whose resignation was formally accepted Dr John E Walsh is appointed sanitary inspector, with a salary of $1,200 per annum and an indefinite leave of absence without pay, pending his return to Washington Dr Walsh is at present in the Arctic regions with the Peary relief expedition Dr R D Boss has been appointed acting medical inspector, to serve until Dr Walsh is ready to take charge of his new office Dr Edward M Parker was appointed bacteriologist at a salary of $400 per annum, vice O'Malley, appointment to take effect September 1 Dr G C Clark has been appointed physician to the poor at $30 per month, to fill the vacancy caused by the promotion of Dr Boss The appointment of Dr Parker is a particularly fitting one He is the assistant pathologist and is in charge of the Bacteriologic Laboratory in the Central Dispensary and Emergency Hospital here, and has been assistant to Dr Welch at the Johns Hopkins Hospital The District Health Office is to be congratulated upon securing the services of Dr Parker, the salary is, however, entirely too small to begin to compensate the Doctor for his valuable services

Garbage Law to be Enforced —About fifty cases of violations of the garbage law by citizens were tried in the police court during the past week The Health Department is not demanding the payment of fines, but simply requires compliance with the laws on the subject

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from August 24 1895 to August 30, 1895

1st Lieut William W Quinton Assistant Surgeon, is relieved from duty at Fort Riley, Kansas and ordered to Fort Logan, Colorado for temporary duty at Fort Logan, Colorado, relieving Captain Louis A La Garde, Asst Surgeon Captain La Garde, on being thus relieved, will proceed to Boston, Mass, and report for duty as Attending Surgeon and Examiner of Recruits

Leave of absence, to date from August 21 and to include September 30, 1895, is granted Lieut Col John S Billings, Deputy Surgeon General, U S Army

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending August 31 1895

August 29 Surgeon J E Gardner, and P A Surgeon F J B Cordeiro, to temporary duty as members of the medical board at the Naval Academy, September 5

LETTERS RECEIVED

Ahrend, D H, Chicago, Ill, Ammonol Chemical Co, New York, N Y

Bacon, Chas S Vienna, Austria, Berna, H & Co St Louis, Mo Buckley, Jno J, Missoula, Mont, Brains Publishing Co, New York N Y

Cooper, O O Hinton, W Va, Columbia Chemical Co, Washington, D C Cone, Andrew New York, N Y

Forbes S F, Toledo, Ohio

Gaston, J McFadden Atlanta Ga Gilson, G H Shipman, Ill Gibbs F M, Scranton, Pa Grigsby W E, Blandinsville, Ill, Glycero-Acid Phosphate Co, New York, N Y

Henry Pharmacal Co Louisville, Ky, Hanks, H T, New York, N Y, Hurley, J M, San Bernardino, Cal, Hummel, A L (3), New York, N Y

Irvin, Alex, Curro, Texas

Kern, W B, Wood River, Neb Klebs, Edwin, Asheville N C Kellogg, J H (2), Battle Creek, Mich

Loewenhertz J, New York, N Y, Lehn & Fink, New York, N Y Lambert Pharmacal Co St Louis Mo

McGraw, I A Detroit, Mich Montgomery E E Philadelphia, Pa Miner, A G Niles Ohio, Milliken J T & Co, St Louis Mo, Macey The Fred Co (2) Grand Rapids Mich

New York Post Graduate Medical School, New York, N Y

Oglesby W J, Krebs, I T

Pepper, Wm, Philadelphia Pa. Post Graduate Medical School, Chicago Ill Phillips, Ellis New Haven, Pa Powell, E, Chicago, Ill

Robinson R F Egan S D Rogers, N D, New York, N Y

Sander Enno St Louis, Mo Smart, Chas, U S A Washington, D C Schimmel M S (2), Baltimore, Md Stevens C L, Athens, Pa Smith, E R Toledo, Iowa, Stork, H W, Holland, Ind, Scheiffelin, W H New York, N Y

Webb J A Providence, R I Wahrer, C F, Ft Madison Iowa, Wiley, Z K, Baltimore, Md

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ADDRESS

DANIEL DRAKE OR THEN AND NOW

The Address in Medicine delivered before the Mississippi Valley Medical Association, Detroit Mich Sept 4, 1895

BY WILLIAM PEPPER, M D, (Univ of Pennsylvania)
PHILADELPHIA

Mr President and Gentlemen, Members of the Mississippi Valley Medical Association —As I left Jersey City and traveled in twenty four hours to this beautiful city, the place of your meeting this year, it was impossible that my thoughts should not have turned to the strangely different journey, taken in his infancy over this same route, more than one hundred years ago, by one who was destined to play so prominent and so honorable a part in the life of the Mississippi Valley during the ensuing sixty-five years

Dr Daniel Drake, to whose life work I beg to invite your attention this evening, was born in New Jersey, of humble parentage, on Oct 20, 1785, and in the latter part of the spring of 1788 his parents removed to Kentucky Taking Daniel and his baby sister Elizabeth, and an unmarried sister of Mrs Drake, with all their worldly goods, in one Jersey wagon, the journey was made over the Alleghenies to Fort Pitt, and then in a boat crowded with other families, and accompanied by similar boats for fear of Indians, to Maysville More than sixty years afterward, Dr Drake gave (in a series of reminiscent letters addressed to his children) an account of the toils and hardships and dangers endured by that pioneer family for the ensuing twelve years, until as a lad of 15 years of age, he was sent himself to study medicine under Dr Goforth at Cincinnati I can point to no work in which a more vivid and life-like picture is given of a primitive condition of society, and in which, at the same time, the author reveals with such frankness and fullness his own character and individuality It is not surprising that all who knew Dr Drake, at every stage of his life, should have concurred in unanimous testimony to the lofty and at the same time attractive qualities of his nature It is a long time since I first began to study his works, and I think I may safely say I have read all that he ever wrote for publication, and nearly all of the many publications concerning him which appeared after his death Whence it is that some gifted persons acquire their rare charm of literary style, it were idle to inquire To Drake, it was the gift of nature, the power of expressing in pure and flowing and brilliant language the lofty ideals, the clear thoughts, the graceful fancies of his ardent nature and his powerful mind His childhood was spent in the ceaseless labor of the farm, but through it all, Nature spoke to him as to a favorite son and opened his eyes to her infinite charms and inspired him with a love for herself which never lost its ardor It was this which sustained him through a long life, into which were crowded far more than an usual number of severe trials and disappointments, and kept his spirit to the end as fresh and buoyant and enthusiastic as a boy's There came readily with this true love of nature those precious things of life—the power to appreciate purity and nobility in humanity, the power to form and to sustain lofty ideals, and the power to scorn petty groveling ways and to pursue the chosen higher path This was eminently true of Drake His character is known to us with a rare fullness, and yet there does not appear in it a single vice He was ambitious, but his aims were never selfish or personal His proper self-respect was untainted with vanity His desire for office was to secure larger opportunities for public service Money had no attraction for him, save to promote scientific investigation and to discharge his obligations He was familiar with the pinching grip of poverty, he longed for the larger opportunities of study and action which wealth would give, at one time he entered almost recklessly into commercial operations which involved him in financial disaster, he accepted the load of debt with cheerful courage, and eventually paid every creditor in full And yet he never allowed himself to pursue his profession as a mere money-making calling, but resolutely devoted a large part of his talents, time and strength to the advancement of education and science

It may seem to you that it were more fitting, had an address upon the character and work of Daniel Drake been delivered in Cincinnati, with whose institutions his memory is most intimately associated But when we consider that this is distinctly a gathering of the medical men of the Mississippi Valley, and when we reflect upon the colossal work which Drake achieved for the entire valley, and upon the splendid conception which he formed in the early days as to its future development and destiny, there can be no doubt that wherever this Association may meet, there should the memory of Drake be cherished

The census of 1790, two years after his family came to Kentucky, gave the population of the United States as 3,929,214 Of the many States which now must be included in the great Central Valley, only Kentucky and Tennessee are there mentioned, with an aggregate population of 109,368, or 2 7 per cent of the whole, and the center of population was twenty-three miles east of Baltimore, in 1800, the year in which he began to study medicine at the age of 15 in the town of Cincinnati, which did not then contain more than 500 inhabitants, the census gives the total population of the country as 5,308,483, and that of the Central Valley (comprising Tennessee, Ohio, Indiana and Mississippi) as 386,413 or 7 2 per cent of the whole, and the center of population was eighteen miles west of Baltimore, while in 1895 the estimated population[1] of the country is 69,212,057, and the population of the great Central Valley, including eighteen States, is 29,614,304, or about 43 per cent, and the center of population is about Columbus, Ind, a westward movement of 525 miles in one hundred years From an early age the tremendous magnitude of the physical and sociological features of the interior valley of North America, including the Canadian portion, impressed the imagination of Drake with overwhelming force This vast stretch of territory beginning within the tropics and terminating within the Polar circle, and bounded laterally by the Appalachian Mountains on the East and on the West by the Rocky Mountains, embraces over 5,000,000 of miles—the northern part alone being rendered unavailable by the state of its surface and climate Even that part belonging to the United States and which may be strictly called the Mississippi Valley amounts to 1,244,000 miles To the clear vision of Drake, this valley presented itself as the last crucible into which living materials in great and diversified streams could be poured for amalgamation The commingling of races upon a scale such as the world has never elsewhere witnessed could not fail in the end to give a new physiologic and psychologic development No man could have less than Drake of the exuberant national spirit which made Elijah Pogram so great a terror to the effete civilizations of Europe When Drake expressed his conviction that the vast homogeneous population which would eventually fill the interior valley of North America would present the last and greatest development of society, the opinion was based, not on the surpassing natural advantages of the territory, but upon his faith in the physical and social perfectibility of the race when it should attain its growth under conditions of civil and religious liberty The contemplation of this great vision filled him with a passionate desire as a philanthropist and social reformer, that at the earliest day the foundations of education and of charity should be laid deep and strong there, so that the mighty tide of promiscuous immigration which was rising rapidly should have a saving element infused at once Again he foresaw, as a natural philosopher, the immense importance of securing in the early days of the settlement of the valley, an accurate account of its topography, and of the climate, the flora and the fauna, and parallel with this, an account of the physical condition and habits of life of the pioneers Lastly, as a medical philosopher, he recognized early the absolute necessity of a wide-spread enforcement of public and private hygiene, and of radical measures for the elevation of medical education

When we consider the achievements of Drake in each of these three difficult fields of labor, we marvel at the courage, the ability and the unsparing ceaseless activity displayed

Throughout his life he was intensely interested in public affairs Intimately associated with many of the most eminent men of the country, he threw himself with ardor into the great political questions of the day, and in his speeches and writings evinced a pure and lofty patriotism His repeated journeys up and down the Mississippi Valley had resulted in an equal love and respect for the North and the South Later, in 1851, this expressed itself in a series of remarkable letters to Dr John C Warren of Boston, on the slavery question, in which he insisted that a marked amelioration in the condition of the slaves had occurred under his own observation, and advocated the restriction of slavery to the States then holding slaves, and that emancipation should be coupled with colonization in Africa

When only 30 years of age, he published a notable work, entitled, "A Picture of Cincinnati," which attracted wide spread attention both in America and abroad, and in this he began to urge extensive internal improvements, and then made the first public suggestion of almost all the canals which have since been constructed in this region In 1833 he advocated warmly, and acted as chairman of a special commission of three, to promote the construction of a railway which should connect the Ohio River at Cincinnati with the Atlantic at Charleston It was not on commercial grounds he urged it, but because he believed it would tend to efface sectional hostility if the North and South should thus pledge themselves to common national interests He was largely instrumental in founding the Free Library in Cincinnati He organized the Cincinnati College, which according to his design was to embrace the features of a fully developed university, while its medical school and hospital in an especial sense owe their existence to him The Museum of Science and Art was another of his creations He labored hard for these institutions, he secured legislative grants in their favor, he personally solicited funds for their endowment and support It is probably unnecessary to state that he was treated with injustice and ingratitude, for such is the almost inevitable reward of true benefactors Such treatment never discouraged him His ambition was for the cause and not for himself, and he never lost, until the very end, his enthusiasm for humanity and his zeal in the service of the community Truly did the great and wise Gross speak of him as equally eminent as a patriot, a philanthropist and a medical author The eloquent Charles D Meigs, in delivering the biographical address on Drake at the College of Physicians of Philadelphia, spoke of him as "a man of great and merited reputation, which extended even to the outer boundaries of the republic of medical letters, while as a citizen he reflected honor on his country, so that his name is destined to be reverently pronounced wherever the medical biography and history of America shall hereafter become known"

But I must hasten to speak of the colossal work to which Drake devoted the greater part of his life I have told you that from his earliest years the future importance of the great Central Valley of North America impressed itself indelibly upon him He became a geologist and an archæologist in his study of the formations through which the Mississippi forced its way to the Gulf His early familiarity with the forest and the fields led naturally to a profound study of botany, in which branch of science he became a high authority He mastered the science of meteorology and enriched it by numerous accurate and original observations He collected the materials upon which his descriptions and conclusions are based, by personal exploration of the entire valley from the Gulf to Lake Superior and from the Alleghenies to the Rockies, in the course of which he traveled over 30,000 miles He visited hundreds of medical men along the valley, and actually instituted the earliest collective investigation with which I am acquainted,

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[1] According to an estimate made for the World Almanac of 1895, by the Governors of the States and Territories

by issuing series of circulars to all the physicians of that region, soliciting their cooperation in securing the data desired It was over thirty years after the first announcement of the work that the first volume was published, the second volume did not appear until nearly two years after the death of the author in 1852[2] Drake dedicated his work to the physicians of the Interior Valley of North America, and, with habitual modesty, styled it "An imperfect attempt to lay an extended foundation for a history of its diseases" A careful and critical perusal of the 1,700 pages of this monumental work will convince you that Drake was true to the principle announced in the preface, "that he who would observe correctly must have no theories either to maintain or destroy" As stated by him, the theory that the geological, hydrographical, topographical, climatic, social and physiologic conditions of communities must affect their medical histories, and that where different communities differ widely in one or several of these conditions, a corresponding diversity must appear in the respective histories of all the diseases which admit of modification from causes referable to those heads will not be disputed It may readily be pushed to extremes, but the task which Drake assumed was to portray these conditions as they existed in the early part of the nineteenth century in this great valley, and then to furnish an accurate account of the diseases therein prevalent Faithful to this duty, he ascended the streams to their mountain sources, or descended them to the sea at points exceedingly distant from each other His masterly statement of the contrast between the medical relations of the Mississippi, the river of latitudes, and the St Lawrence, the river of longitudes, may be referred to as an excellent example of his method

The accumulation of facts is simply prodigious, the style is clear and admirably adapted, while the obvious sincerity of purpose and the philosophical breadth of view impress you with a sense of the permanent value of the work[3] It is easy in the light of our more accurate diagnosis and pathology to point to serious mistakes The most important of these is the failure to admit the distinct individuality of typhoid fever, which had then recently been demonstrated by Gerhard and Pennock Nevertheless the existence of severe outbreaks of typhoid at many points of the valley, and in different years, is clearly established by the excellent account furnished of the symptoms and course of the disease, and of the lesions found in fatal cases These accounts should be referred to with care by those who are now meeting with typhoid fever in the same localities, but under widely different local conditions How far there may be actual variations in the disease as found in the Interior Valley, in the Atlantic States, and in Europe, is still open to discussion, and Drake's chapters are an important contribution to the study The flora and fauna certainly present wide differences at different sections of the valley It seems improbable that microorganisms should be exempt from the influence of climate and environment It will not seem strange if shown that certain species of bacillus acquire at different latitudes, and in different soils, widely different degrees of growth and pathogenic virulence There is considerable evidence in favor of the view that the bacillus communis coli, for instance, may from contact with certain organic matter, fecal or not, acquire the properties of the so called bacillus of Eberth Bacteriology is not ready as yet to dogmatize on such points It is probable that we must take into account not only the susceptibility of the system (the soil) and the number of bacilli implanted (the dose of infection) but the virulence of the particular specimens of the bacillus present

If I were to draw any inferences from Drake's description as to the relation between the typhoid he saw and that which we meet with to day in the Middle Atlantic States, I should say that there were many more cases without eruption, while on the other hand grave nervous symptoms, hyperpyrexia, malarial complications and primary pneumonic lesions were unusually frequent

Drake had arrived at a belief in the microbic nature of malaria, yellow fever and typhoid fever, as early as 1832, though of course his opinion was based purely on theoretical grounds He states specifically that he had not seen the ingenious work of the elder John K Mitchell until the year 1850, and hastens to make acknowledgment of the almost irresistible array of facts adduced by the latter distinguished author He anticipated Woodward in the attempt to establish the existence of a *tertium quid* formed by the blending of typhoid and malarial infection It seems to be an easy thing to fall into this mistake when one is dealing with typhoid and malarial fevers simultaneously on a large scale The occurrence of a malarial complication of typhoid, and of a typhoid state in malarial fevers, is familiar, and it may be possible that the co-existence of the two microbes may so modify the blood and tissues as to influence the toxin and antitoxin developed and the consequent phenomena of the disease, but the accounts furnished by Drake, just as the later and more elaborate descriptions by Woodward, fail to convince that such modifications go far enough to constitute a specific difference which would justify the creation of another species of fever Malaria, indeed, was the bane of the Interior Valley in those days, and I doubt if any one has enjoyed such opportunities as did Drake for studying all of its manifestations Almost every page of his great work attests its prevalence, from the Gulf of Mexico up to the 47th degree of latitude (beyond which it became very rare), on the low and ill-drained lands near the rivers, and though in less virulent form throughout the bluff zone and back into the hilly regions, and over the Lake region, including extensive portions of New York State[4] Even at the elevation of 600 or 1,000 feet, malarial fevers were of frequent occurrence, and when extensive disturbance of the surface of the soil was made, virulent outbreaks were to be feared The distinguished French traveler, Volney, wrote that in a journey of 250 miles from Cincinnati to Detroit, begun on Sept 8, 1796, in a company of twenty-five persons, they did not encamp one night without one at least of the party being seized with a periodical fever On arriving in Detroit only three of the party were in health, and on the ensuing day the Commander, Major Swan and himself, were seized with a malignant fever

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[2] I may call attention to the fact that the first 186 pages of the second volume are a reprint of the last 164 of the first volume This was in all probability intentional on the part of the able editors, since it enabled the second volume to open at the beginning of the discussion of Febrile Diseases

[3] In regard to Drake s great work the Standing Committee on Medical Literature of the AMERICAN MEDICAL ASSOCIATION reported at its third annual meeting held in Cincinnati in May, 1850, concerning the first volume as follows

This volume which contains nearly nine hundred pages is taken up with the medical topography the climate the manners of the inhabitants, and the autumnal fevers of this vast region Owing to the late period of its publication, the committee have been unable to examine the treatise thoroughly, and they might therefore rest contented with a bare announcement of its existence But they are reluctant to do so since even a superficial inspection of the work has convinced them that it belongs to the very highest rank of our medical literature and may very probably come to be regarded as the most valuable original work yet published in America It is certainly unrivaled in the amount and variety of its materials its style is perspicuous correct and elevated and it appears to have been elaborated with great industry and care Its distinguished author has raised a durable monument to his own name and to the medical reputation not only of the great valley but of the greater Union

[4] The swamps of the Chautauqua (sic) Summit in New York at an elevation of 1,400 feet were innoxious

On the lower reaches of the valley there were places where malaria was so pernicious and the sanitary conditions so shocking that we can not criticise Dickens for the harrowing account he published in "Martin Chuzzlewit" in 1843 Drake describes a town which was projected under the name of Florida, but which may well have been the original of that most misnamed Eden to which young Martin and the faithful Mark Tapley were lured by the wiles of land agents It was at the estuary of the Escambia River, where the silt brought down by that stream had generated a marsh several miles in width, while the pine lands, which usually conferred immunity, lay to the leeward In 1766, sixteen French Protestant families, consisting of sixty persons, were sent at the expense of the English government to this deadly spot When the hot months arrived, all but fourteen perished, and the survivors lingered only a few months longer with shattered constitutions In spite of this, many years later, in 1832, a new town was laid off to be called Florida, and between twenty and thirty wooden houses were built and tenanted by as many families Their history, says Drake, may be told in a few words Year after year they were assailed by autumnal fevers of the most malignant character, the spot was at last called a graveyard, and being abandoned by those who survived, I found, on passing through in 1843, but two families remaining

"Do you consider this a swamp, Sir?" inquired Chollop gravely of Mark Tapley at Eden

"Why yes, Sir," returned Mark, "I haven't a doubt about it"

"The sentiment is quite European," said the Major, "and does not surprise me What would your English millions say to such a swamp in England, Sir?"

"They would say it was an uncommon nasty one, I should think," said Mark, "and that they would rather be inoculated for fever in some other way"

"European," remarked Chollop, with sardonic pity "Quite European"

It was just such swamps as that of Eden which abounded formerly in many of the counties of England, and the medical literature of England in the last century teemed with discussions of the resulting malaria Just as drainage and cultivation have almost eradicated it there, so did Drake and every intelligent observer know that the same agencies would inevitably banish malaria in large degree from our great Interior Valley How swiftly this good work would progress under the vast immigration of the ensuing fifty years, not even Drake in his most sanguine moments would have ventured to predict Meanwhile, it was the great cause of mortality or infirmity of constitution, especially in the southern portions of the valley, and the medical practice of the entire region was powerfully influenced by the views entertained regarding its nature

I am aware that some of Drake's contemporaries, possibly influenced by envy of his national fame and great authority, insinuated that he was a mere theorist and speculator, and a reckless practitioner Dr. Gross, who had the best opportunities of knowing him and his practical ability, gave this testimony. "I have great confidence in his professional acumen I saw enough of him in the sick chamber to satisfy me he had a most minute and thorough knowledge of disease and of the application of remedial agents There was no one whom I would rather have trusted in my own cases, or in that of a member of my family" No additional testimony, however, is needed by any one who will carefully study his own writing Everywhere is manifest the accurate observer, the clear-headed thinker, the practical man who can not be led by mere authority and who will not lapse into routine The truth is that Drake was ahead of his time—at least of that time in his region—as much in his practice as he was in other things When he first began the study of medicine with Dr Goforth, of Cincinnati, at the age of 15 years, he showed so much ability that in four years he was admitted to partnership He was thus engaged in practice, not only without a diploma but without ever having listened to a single lecture, for over a year, when he scraped together enough money to go to Philadelphia and take a course of lectures at the University of Pennsylvania Before leaving Cincinnati, his instructor and partner presented him with an autograph diploma, setting forth Drake's ample attainments in all the branches of the profession This was the sole pretense of a license to practice which he possessed until his second visit to Philadelphia, eleven years later, in 1816, when he received his diploma at a special Commencement held purposely for him on May 11, more than a month after the occurrence of the regular Commencement[5] He was powerfully impressed with the brilliancy of Rush's lectures He had, even as a lad, conceived a high admiration for the genius of this great teacher from the study of his writings but his practical sagacity led him to modify his doctrines in accordance with the results of his own observations, instead of carrying them blindly to an extreme length as was done by only too many We can well understand the mortality that attended all fevers, when we read in Drake's reports of the practice of his contemporaries, that for the gastric complications many physicians gave calomel in doses of a scruple or a drachm at short intervals, that even doses of half an ounce, or an ounce and a half several times a day were far from rare, that these doses were sometimes given to load down the irritable stomach and by their actual weight to prevent vomiting, that multitudes believed that when they did not obtain bilious discharges by ounce doses, it was because they were too timid in its administration that in some cases even so much as a pound or a pound and a half were administered to a single patient He quotes from the letter of a physician in Louisiana who wrote with playful hyperbole that in a recent epidemic, "he had drawn enough blood to float, and had given enough calomel to freight, the steamer *General Jackson*" Against this drastic and murderous practice, Drake exerted all his influence He urged the external use of cool water in fevers to reduce excessive temperature, he rapidly came to advocate an expectant method of treatment conjoined with scrupulous attention to all hygienic details, because he found all special methods unsatisfactory When we look around us to day and witness the eminent schools of medical science in those Central States, the numerous distinguished practitioners, teachers and authors, the original publications of high scientific and practical value, we are amazed at the speed with which the medical profession here has advanced to a position of well organized and commanding strength It is easy for you to day to advocate prolongation and elevation of medical studies, to insist upon the adoption of rational methods of treatment, to secure substantial aid in the prosecution of scientific investigation Let us never despise the day of little things All the more should we honor those who were the pioneers in this wonderful march of progress, and who held aloft the standard of scientific truth and professional dignity under the most difficult conditions Well do I remember the feeling words in which my revered friend, the late Samuel Freeman Miller (whose services in the cause of constitutional liberty rendered during so many critical years as Associate Justice of the United States Supreme Court place him in the rank with the immortal Marshal), spoke to me of the causes which led him to abandon medical practice and begin the study of law He graduated at the Medical Department of Transylvania University, in 1838, but soon found the difference between the theory as taught and the practice as established in Kentucky so glaring, and the difficulty of securing a chance for more rational measures so insuperable that he was wretchedly unhappy Drake felt these difficulties keenly, but his enthusiasm carried him through When he was only 21 years of age he used cold affusions in a case of fever, the friends protested, and Drake called in consultation an old and respectable physician who highly approved the affusions, but said it was too hazardous to a physician's reputation and therefore should not be employed "This advice," continued Drake, "contained something which we are all sufficiently predisposed to lay hold of I accordingly adopted it, and have had repeated occasions for dissatisfaction ever since The event of some severe cases of fever in the summer of 1812 determined me to revert to the disinterested and magnanimous views and motives of youth, and also to prescribe and enforce, in all dangerous cases, anything which I believed necessary, the antipathies of the sick and the obloquy of the intermeddling notwithstanding" I am sure that every one of us has been forced to face the same temptation, and it is well for us if we have shown the righteous determination of Drake It is certainly not the least of Brandt's claims to our gratitude that while others before him had recognized the advantages of hydrotherapy in fevers, he alone insisted upon it so strenuously and repeatedly and with such impressive marshalling of facts, that at last a reluctant world was compelled to give heed

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[5] A full explanation of this singular and highly complimentary occurrence is given in Dr Meigs interesting biographical notice of Drake (Trans Coll Phys of Phila, 1898) in the form of a letter from Dr Joseph Carson, the Dean of the Medical Faculty of the University It appears that Dr Drake submitted his thesis, at the close of the session, and left the city with the understanding that he should be notified in time to be examined and to receive his degree The letter did not reach him and he returned to Philadelphia the day after Commencement "*Under these circumstances the Professors, considering the high* literary accomplishments of Mr Drake, the value of his late publication, his present eminence and future promise examined him on April 30 and recommended him to the Board of Trustees for the special mandamus which was granted at the Commencement held as has been stated"

I may not now enter into any extended discussion of this ever interesting question My object has been to show that Drake was a leader in this respect also He appreciated the external use of cold water in fevers, in the phlegmasiæ, and as a means of rousing reaction in collapse He quotes from the practice of a number of his correspondents to show that hydrotherapy made some headway in his time The difficulties attending its thorough introduction into private practice have always been too great, however, for the average man to overcome, and all of us know that only of recent years and under the teaching of Brandt, of Jurgensen, of Liebermeister has it secured general adoption In fact, even at the present day, this curious anomaly exists, that in nearly all hospitals thorough hydrotherapy is used in fevers, and in many of them the rigid Brandt method is applied as an unvarying, and therefore unphilosophical routine, while in private practice I fear there are comparatively few medical men who insist upon cool bathing, even when it is urgently indicated If any rigid routine treatment of typhoid fever is to be used, the statistics leave no room for doubt that the Brandt method has yielded a larger percentage of recoveries than any other The problem is still unsolved, however, whether the restriction of this method to certain groups of cases, and the employment of other methods in cases of different type, may not still further reduce the mortality To this conclusion I believe we shall come at last It is the opinion which some of the ablest clinicians are reaching When we meet with such figures as the following, which give the results of the strict Brandt method in typhoid fever in the German Hospital of Philadelphia for five years, and show during 1890-91-92, 292 cases with 16 deaths, or a mortality of 5 5 per cent, while during 1893 94 there were 152 cases with 24 deaths, or over 15 per cent mortality, it is difficult to avoid the conclusion that some of those who died might have fared better under another mode of treatment We may be assured that hydrotherapy, like every other powerful remedy at our disposal, must be used with strict regard to the peculiarities of each case, and that extended observation will show it can not be employed in a rigid routine method in any disease, and especially in so complex a disease as typhoid fever, with the attainment of the best results practicable I am convinced, for instance, that it is a grievous mistake to omit the use, in conjunction with hydrotherapy, of some suitable remedy adapted to the state of the affected mucous membrane, and to the septic condition of the intestinal canal I doubt not that others have learned to use various remedies for this purpose with good results, as for myself, I must state that for so many years I have used nitrate of silver in every case of typhoid fever under my care, and with such apparent benefit, that I greatly prefer it to all other intestinal antiseptics, and, indeed, as you well know, it possesses extremely high antiseptic power, in addition to its remarkable local action on the mucous membrane

I wish I might dwell at length on the admirable instruction of Drake as to the hygienic treatment of fevers, but this was but natural in one who saw more clearly than any one of his time, so far as I know, the supreme importance of hygiene both in preventive and remedial medicine

Each age has its Jeremiahs, who lament the degeneracy of the time It is probable that Nordau, who is the latest, is also the most learned and ingenious of these apostles of pessimism But it is easy to make out a strong case by collecting data which support a certain view and excluding all which are opposed His book, which has had the vogue of a popular novel, will be scarcely more long-lived or influential It is a poor business to oppose mere assertion to elaborate argument, as I am doing, but I have such deep and unchanging faith in the improvement, physical, intellectual and moral, of the race, that I can not let pass unchallenged what seem to me the specious and unsubstantial arguments of the pessimists Thirty years ago many people were comfortably settled in their conviction that the attempt to establish on this continent an enduring, vigorous, native-born race was doomed to failure The American climate was to prove too much for us, and those who survived the climate were to succumb to the enervating effects of luxury, or to fall in the deadly struggle for the almighty dollar We can afford to laugh at these predictions now, when we see the splendid physique of the men and women of the rising generations, when we see the triumphant advance of our industrial and commercial position, when we see the development of a vigorous literary, scientific and artistic activity, when we see a progress in the wise and enlightened use of wealth which extorts the admiration of the world, and when we see our beloved institutions standing the stress of every storm and adapting themselves more and more marvelously to the growth of a community of 70,000,000 peaceful and prosperous freemen

But in Drake's day the peculiarities of the climate were little heeded, the dress, especially of women and children, was usually unsuitable, athletic exercises were almost unknown, the excessive use of spirits and of tobacco was conspicuously frequent Many of the early settlers brought with them the habits of life acquired in comparatively equable climates, it is needless to say they suffered from the sudden and violent changes here Drake called attention to the obvious fact that the great Central Valley, lying between one of the hottest and one of the coldest seas of the globe, must forever be subject to sudden vicissitudes and wide extremes of temperature He cited as examples of such extremes a yearly range of 117 at Cincinnati, of 126 at Montreal, of 134 at St Louis We have learned not only that these changes can be anticipated, but that with intelligent care their effects can be readily tolerated

The most depressing feature of those early days is the fact that so little physical exercise was taken by young people of either sex Says Drake "A walk of a single mile is regarded as an enterprise to be remembered with self-complacency and if, under necessity, extended to twice that distance, a hardship to be recounted for the purpose of exciting sympathy" If hard labor and exposure generate a few diseases, want of exercise and recreation is the remote cause of a far greater number, and the above account of the attitude of our people toward exercise before the era of athletic sports opened was applicable to the entire continent To this lamentable absence of proper physical training, and to the effect of a climate which renders this training preeminently necessary to increase our resisting power, there were added the evil results of yet another national peculiarity, the universal prevalence of bad cookery and neglected mastication Drake says "The practice of rapid eating is universal among us, that it prevails everywhere, though not adopted by every individual, the food is imperfectly masticated, and too much is taken" You will all remember Dickens' excruciatingly funny account of the dinner at Mrs Pawkins' boarding house in New York, where dyspeptic individuals bolted their food in wedges, feeding not themselves but broods of nightmares, who were continually standing at livery within them, where the fowls disappeared as rapidly as if every bird had had the use of its wings and had flown in desperation down a human throat, where the sharpest pickles vanished, whole cucumbers at once, like sugar plums, and no man winked his eye, and spare men, with lank and rigid cheeks, came out unsatisfied from the destruction of heavy dishes, and glared with watchful eye upon the pastry Allowing for the exaggeration pardonable in the courteous visitor who accepts our hospitality in order to write his book of travel at our expense, there was much unpalatable truth in the account It did not need the prevalent malaria, inevitable in a new and fertile country, nor the damp, ill-ventilated dwellings that were only too frequent, to explain the prevalence of catarrh and anemia and defective nutrition, where such grave faults of personal hygiene were ignorantly practiced by the great majority The same lesson has been learned here as in all parts of the world, that it is easy to overestimate the influence of climate, and that strict attention to the details of hygiene will insure a gradual attainment of high physical vigor even under adverse conditions We have seen malaria diminish steadily and rapidly, and we shall see the prevalence of catarrh, with its vile habit of expectoration and its defective articulation, become a thing of the past, just as we are witnessing the replacement of the anemic light-weights of former generations by the most vigorous lads and lasses in the world It has been my good fortune to be able for over thirty years to study on a large scale the physical and mental and moral conditions of the young people of America I have no fear of contradiction on the part of any competing authority when I assert that these conditions have all changed decidedly for the better, and I venture the opinion that the improvement has corresponded to, and has been largely dependent upon, the specially conspicuous advance in their health

No one of Drake's claims to the gratitude of posterity seems to me greater than that which is based upon his services to hygiene When all around him were indifferent to it, he was unswerving in its advocacy In one of his latest utterances, an address before the Medical Library Association of Cincinnati, in 1852, he thus bemoans the premature death of a large proportion of his medical contemporaries—then as now, often among the violators of the laws of health "It is truly a sad thing that in the United States the progress of civilization and science shall so violate the laws of health as to shorten the lives of those who are laboring to promote it I beseech you, gentlemen, to turn your minds to the correction of the errors of hygiene and education which lead to this melancholy result"

If space permitted, it would be well to show how rational and judicious were his views on the subject of phthisis, then already recognized as the scourge most to be dreaded in this country The relation between the frequency of phthisis and ill-drained soil and damp and poorly ventilated buildings, subsequently worked out for Massachusetts by Dr H I

Bowditch in a masterly manner, was clear to him; he recognized its infectiousness; he had learned that the main hope of averting its development or of checking its progress is to be found in careful hygiene, and he advocated strongly that phthisical patients should seek a residence in dry, cool and elevated regions.

In estimating the influence which Drake exerted upon contemporary thought on these great questions, we must remember the exceptional opportunities he enjoyed for reaching the ear of the public, as well as of the profession. For many years his house was more resorted to by distinguished visitors than any other in the cities where he resided. He was the chosen orator on nearly all important public occasions—whether in the cause of temperance, of charity, of education, or of large public improvements. He founded the first medical journal in the interior valley in 1822. He was one of the founders of the Cincinnati College of Teachers, and some of his ablest addresses were delivered before that body. Somewhat after the example of the distinguished Caspar Wistar, of Philadelphia, he encouraged meetings of a literary and scientific character at his house on a stated evening of each week. But undoubtedly the work into which Drake threw himself with the greatest ardor, next to the preparation of his *magnum opus* on the "Diseases of the Interior Valley," was that of medical education.

Of his merits as a teacher, it suffices to quote Professor Gross' assertion: "Of all the medical teachers I have ever heard, he was the most forcible and eloquent." And as to the appreciation in which he was held throughout America, it will surely suffice to state that beginning with his first call to a professorship at Lexington, Ky., at the age of 31 years, he received no less than thirteen calls to professional chairs, and he actually occupied nine separate chairs in five distinct institutions. These institutions were Transylvania College, in Lexington, Ky., where he held two different chairs at different times; the Medical College of Ohio, of which he was the founder in 1819, and where he was elected a professor no less than three times; the Jefferson Medical College, at Philadelphia, where he filled the chair of the institutes and practice for one year; the Medical Department of Cincinnati College, which he organized in 1835, and the Medical Institute of Louisville, Ky., with which he was connected at two separate periods. Naturally, these frequent changes have seemed to require explanation; nor is the explanation difficult to furnish. It was certainly not from any lack of ability nor from any want of popularity with medical students. Gross, who was his colleague in two distinct faculties, declares that when he came to the Jefferson College he was the most popular professor in the institution long before the close of the session. Eloquence such as his, ready and off-hand, had not fallen from the lips of any teacher since the days of Rush. It may be asserted that each and every institution with which Drake was so connected enjoyed exceptional prosperity while he was in the faculty, and in most instances there was a marked reduction in the size of the classes immediately consequent upon his withdrawal. I have no doubt myself that his conduct was governed by lofty motives, and that each step was dictated by his intense desire to elevate the standard of medical education in the great interior valley, to the interest of which he had dedicated his entire life and powers. Professor Meigs, who knew the facts, states explicitly that Dr. Drake accepted the chair of medicine in the Jefferson College with the express understanding that he should hold it for only one season, when he intended to return to Cincinnati to establish a Medical Department of the Miami University. He was essentially a leader and a pioneer. Of the other medical schools with which he was connected, he was either in whole or in part the founder and organizer. In all he strove earnestly for the adoption of a higher standard and for stricter methods than were approved. In each case he promptly sacrificed his personal feelings and interests, so soon as it appeared that the conditions were not favorable to honest and thorough education. No more uncompromising foe existed to ignorance and to dishonesty, and shams of all sorts. Persevering study, unswerving application, steady, hard work, had done great things for himself; he believed in them for all. He was an eloquent advocate of the public school system, and urged that compulsory education in certain branches (including physiology and anatomy) is in strict accordance with the spirit of our Constitution, and the most certain means of perpetuating them.

In 1832 he issued a little volume of practical essays on medical education—which I would gladly see reprinted and placed to-day in the hands of every medical man in the country. It is literally true that not one of the evils from which the profession has so sorely suffered since is overlooked, and not one of the remedial measures which we have striven to secure and apply is not brought forward and advocated. He points out with the unsparing finger of truth, the defects in the preparatory education of a majority of medical men. He denounces the wrong done by the reckless competition of needlessly numerous medical schools, wholly unendowed, and conducted far too largely in the personal interests of their faculties. He insists with caustic force upon the flagrant inadequacy of the curriculum then required, which covered two sessions of a little over four months in successive years, or even in a single year; and asserts that even three years of actual study with longer sessions is too short; that four years should be rendered indispensable; and that the regular course should be supplemented by summer lectures on auxiliary sciences. He demands that the didactic element in teaching shall be subordinated to such practical training as will develop the power of accurate observation. And finally he insists "that medical schools shall be placed under the supervision of the law, and thus rendered amenable to the sovereign power of the State; and further, that medical professorships shall be regarded as public offices, which are to be filled or made vacant for no other motive than the general good."

It is thus I would present to your consideration this noble minded man, filled with the enthusiasm of genius and of devotion to humanity, and consecrated to the true interests of society and of medical science. He was decades ahead of his time. It must have been bitter to him to note that in the ensuing twenty years, from 1832 to 1852, the date of his death, there were no fewer than fifty-three medical schools organized in the United States. It would have been more bitter to him to know that the degradation of medical education was to continue unabated until even the possession of an American diploma should become an opprobrium in foreign lands But it is not necessary, thank Heaven, to fight over again the battle for higher medical education It is true that the morbid process of multiplying medical schools has gone forward even more virulently than before, between 1853 and 1872 inclusive, sixty-one were organized, and from 1873 to 1890, only seventeen years, no fewer than 114 medical schools were established The proportion of medical schools to population in other countries has varied little since the tables I published in 1876[6] Russia has 1 school to 14,000,000 people, Brazil 1 to 7,000,000, Austria and France each average 1 to between 5,000,000 or 6,000,000, Germany and Great Britain 1 to 250,000, but the United States, which in 1876 had 1 medical school to every 477,392 of her population, can now boast that in 1890 the ratio has risen to 1 in every 440,151 But, nevertheless, the battle for higher medical education has been fought and won The profession has set the seal of lasting approbation upon those great schools which have had the courage to enforce the needed reforms, to exact a serious preparatory examination, to lengthen the period of collegiate studies to four full years, to insist upon careful grading of the courses, and upon ample practical instruction of each student both at the bedside and in laboratories, and to establish salaries for the professors so as to lessen their pecuniary interest in the size of their classes Professional opinion has also demanded, with the cordial concurrence of the leading schools, that State Boards of Examiners shall exist in every State, so that the questionable custom shall cease of having the qualifications of candidates for the license to practice decided solely by the men who have taught them, and who are interested in their success Not only has the profession contributed its indispensable and invincible support to the great pioneer schools in this movement, but the public has shown its appreciation by beginning to contribute to their endowment and by insuring ready and brilliant success to their graduates The callow brood of half-fledged schools, with poor equipment and meager clinical facilities, must accept the useful but less ambitious duty of providing preparatory training in the non-practical branches to fit students for entering the stronger institutions for their advanced work and final degree

This law of development is already so manifest that we may cease to distress ourselves about the continuing low standard of many of our weak schools Let us address ourselves all the more courageously to the great objects so clearly in sight, to the further strengthening of the strong schools until in endowment and equipment and facilities they not only equal but surpass, if possible, the greatest schools of Europe, to strengthening the hands of the State Boards so that their examination shall actually demand a thorough and adequate education, to insistence upon such legislation in each State as shall stop the issue of charters save to creditable persons who shall give evidence of actual resources sufficient to establish the proposed school upon a strong and permanent basis Let us go one step further and demand, in the name of the vast interests devolving upon the medical profession, of the assured advances already made in hygiene and medicine, of the absolute necessity for concerted and authoritative action in dealing with the problems which now confront us, and which affect the happiness and prosperity and safety and life of every inhabitant of this country—let us demand, and let us persist in our united enforcement of the demand, that there shall be granted national *recognition of preventive medicine, with a proper* representation in the government at Washington

What joy unalloyed would such a meeting as this have given Drake! To see his most glowing dreams more than realized, to see such a gathering representative of the entire country, in his beloved valley—drawn there not by its great natural attractions, not by the splendid prosperity of its cities, Detroit, Cincinnati, Louisville, St Louis, Chicago, and a score of others, but chiefly by brotherly affection for her medical men and by admiration of her great schools which have so bravely and so successfully fought in the vanguard for the elevation of medical education and for the dignity and purity of the profession

The great Mississippi waterway, which extends over four thousand miles, instead of dividing, united, and helps to weld into one, the great States between which it runs From the mountains and highlands within its drainage area, it is now, as for ages past, carrying down to the Gulf, solid material at the rate of hundreds of millions of tons annually[7] The leveling down of the mountains is serving to fill up the Gulf, so that the delta of the Mississippi may in time extend to Yucatan With equal certainty is the flood tide of human life pouring into and through this valley, doing its mission Ancient barriers of class prejudice and race hatred melt down, the East is blended with the West, and the North with the South To-day we plan for an extension of our medical relations far to the southward, until they shall meet our brethren of the South American Republics Already we have effected the organization of the Pan-American Medical Congress which is the final expression of the consolidation of the profession of the entire continent Our sister Republic of Mexico extends a cordial invitation to us to attend the second Congress in her capital in 1897 As chairman, *ex-officio*, of the Executive Committee of the Congress, I have the honor to announce this gratifying and courteous act I am confident that all of us feel that the spirit of the times, the genius of this great region, the inevitable law of our national evolution, lead us strongly in that direction, and impose on us the duty of doing our full share to render that important meeting as brilliant a success as we have made of this delightful occasion

ORIGINAL ARTICLES

THE BATH IN MODERN MEDICINE

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md , May 7 10, 1895

BY CHAS H SHEPARD, M D
BROOKLYN N Y

The advance of modern medicine in the prevention of disease is gratifying to all whose studies have been in that direction Preventive medicine touches the keynote of medical science, and its possibilities reach to the perfection of mental and physical manhood It is in this line of medical research that the greatest good to the greatest number is to come As mankind are enlightened they will seek necessarily, more, and more, those who can teach them to observe mental and physical laws, that thereby they may secure a sound mind in a sound body, and, inasmuch as the onward march of sanitary science will bring about a condition in which the mere healer of diseases will be in less and less demand, a broader field will be found for the constantly increasing supply of graduated physicians in such work as instructors, lecturers, health inspectors, etc.

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[6] Higher Med Ed, pp 46 J B Lippincott Co, 1894

[7] Estimated at 362,000,000 tons a year sufficient to make a square mile of new land, allowing for its having to fill up the Gulf to a depth of eighty yards

It is a hopeful sign that the study of medicine is to-day more concerned with the origin of disease than the verification of symptoms. By electroscopic explorations the physician is now provided with accurate methods of searching out disease, and to the microscope he is indebted for many important discoveries that have advanced the science of medicine to the plane of demonstration, that has given the germ theory of disease the importance it deserves, and contributed to the mitigation of human misery, as well as to the mastery of disease.

The living nature of contagious disease is beyond question, and it has been demonstrated that in the body of an individual thus attacked, there exist microbes capable of implanting themselves and multiplying in the tissues of a person predisposed to that disease.

The fermentations produced by the action of the microbes are toxic, and beside this there are soluble ferments which assist in the production of local lesions by breaking up living cells. The toxicity of intestinal matter is recognized as a poisonous product elaborated by these microbes. If by any reason their elimination is delayed or prevented, poisoning of the system necessarily follows from their absorption.

The human organism is a receptacle and a laboratory of poisons. Those that are formed by the disintegration of the tissues and those which are formed in the digestive tube are carried into the blood. Therefore as we know the blood is the necessary medium between the place of their formation and their elimination, man's only escape from them is by the cutaneous, renal, intestinal, and pulmonary emunctories. There is no other relief for any of the organs, and safety lies only in their normal action.

The liver protects from poisoning, by arresting on their way, before they pass into the general circulation, the poisons brought from the intestine by the portal vein, in order to neutralize or throw them back into the intestine. Then the excretory system *expels the* poisons which are in the circulation. It is claimed by some authorities that at least seven poisonous substances are thrown off through the urine, and all come from the blood, and that the man would die if his blood were to contain ten times as much poison as it does in its normal condition. If the skin or other eliminatory organ *acts imperfectly*, the patient is poisoned by the retention of the normal products, and if the kidneys perform the work of depuration insufficiently, the urine ceases to be toxic because of the retention of these impurities in the system. Man receives poisons in his food, creates them by disassimilation and forms them in his secretions, and toxic elaborations are carried on by the normal microbes which constantly inhabit the alimentary canal.

The nature of the alkaloid formed by whatever bacterium may present in the system is largely dependent upon the condition of the individual. The nature of the soil alters the character of the micro-organisms that flourish upon it.

If the whole digestive system was made a matter of careful consideration, its relations to every organ in the body intelligently understood, its needs and normal wants alone administered to, the prevalence of disease would be largely abated.

Disturbances of nutrition are responsible for many illnesses of an acute character, as well as the larger number of chronic diseases. The reaction of a disturbed nervous system induces temporary disturbance of nutrition. Fatigue from overwork or pleasure exposes the system to disease that in a normal condition would be entirely avoided. The first appearance of disease implies an essential deterioration of the organism. An imperfect action of the digestive organs may be inherited, but is more often produced by abnormal conditions. Many diseases that are marked by prominent nerve symptoms are but the first signs of poisoning due to defective nutrition. Man is as surely poisoned by the abnormal action of any function as by breathing mephitic gases or swallowing poisonous substances. Therefore the most important object in the treatment of disease is to secure some method whereby the system may be relieved of these poisons, and the earlier in the case this can be undertaken, the more simple the problem, and the easier of solution.

The fact that so many people are continually overloading their systems with excess of food is too apparent. Even though the stomach may be so weak as to pass on the offending substance, to be taken care of by the lungs, the kidney or the bowels, this excess is nevertheless foreign to the needs of the system. It becomes a poison, and is sure to cause what we call disease, the particular form depending upon the idiosyncrasy of the individual. That is why simple treatment so often relieves such a variety of diseases.

If disease, as we maintain, is naught but a vital effort for the purification and repair of the body, then whatever agency best promotes the work of elimination, at once secures this most desirable result.

The skin may be placed first on the list of eliminating organs, for the reason that it is the largest enveloping all others, and that a larger proportion of the *débris* of the system is thrown off through the skin than by any other organ. After protecting the system by simply existing, its main function is elimination. Inasmuch as the kidneys, and in fact every organ of the body, are dependent for the perfect performance of their functions upon the character of the blood, as well as upon the circulation, none can be more important than the skin, because of this very depurating power. It is a most important fact, that a more powerful drain can be made upon the system through the skin, than by any other organ, and this without disturbing the harmonious working of any function.

The action of heat upon the blood internally, while passing through the capillaries of the lungs, and also upon the capillaries of the outside skin, is most salutary in destroying the virus of whatever disease may be present. There is no more powerful disinfectant than hot air, and a report recently made to the British Medical Association, demonstrates what hygienists and sanitarians have long contended for, that sunlight and fresh air prove of more avail in the disinfection of tuberculosis than any other measures, and hot air is but the liberation of stored up sunlight

While bacteriologists are not fully agreed as to the precise manner, or the agencies by which the blood carries on the warfare against disease producing bacteria, the weight of evidence favors the theory that the white corpuscles are the common defenders and scavengers, but all must agree that with a pure condition of the blood and a perfect circulation, its bactericidal power will be at its highest activity, and that this form of immunity is of all others the most desirable

Thanks to the therapeutics which the body constantly exercises upon itself, man lives The course to be pursued in the general therapeutics of self-poisoning is to prevent the poisons from being formed, to oppose their penetration into the system, and if they have been absorbed, to try to destroy them, or to stimulate the action of the liver, which is a physiologic destroyer of poisons, and further, to encourage the elimination of poisons by the skin, the lungs, the intestines, and the kidneys Of one thing we may be certain, in the treatment of auto-infection, that if there is vitality enough to neutralize or throw off the poison, it will be done more readily and more thoroughly by relying upon and assisting the natural emunctories than by introducing other poisons to neutralize the first Particularly is this true in regard to what are called tonics or stimulants Whatever excitement they may arouse is so quickly exhausted and is derived at such a great expense of vitality as to make their use of more than doubtful utility

In most diseases the active poison is the natural one, resulting from the more intense disassimilation, or from more rapid cell destruction, setting at liberty imperfectly oxidized material

The use of vaccine, tuberculin, antitoxin, and even animal extracts, has been found to be attended with disadvantages The most desirable in the list of artificial remedies seems to have some drawback, and though the search has been long and diligent, success in finding a panacea is as far off to day as it was one hundred years ago The mere list of fads that have had their day, to be laid aside for new ones, would fill volumes

But there is one direction in which we can work with assurance of success, and that is in the matter of personal equation By purifying and fortifying the body, we enable it to cope with the most virulent diseases Unless this can be accomplished, sanitary science will have labored in vain

The sickening and deceitful flood of nostrum advertisements can be overcome, and the community protected, only by disseminating the fundamental truths of sanitary science, and facts regarding hygiene, and its application to human needs Physical health is necessary to perfect mental health, and as health is governed by certain well defined and easily understood laws, it follows that it is a moral obligation on every one, of sufficient capacity, to become acquainted with these laws and live in obedience to them The amount of ignorance on these subjects is appalling, and calls for an unlimited amount of self-sacrificing work by every physician who considers the public good of more importance than mere personal gain It is certainly better for the medical man to lead in this matter, than to leave it to the charlatan, or to wait for the outside pressure of an enlightened public opinion that is sure to come

While the practice of to-day is in accord with the most advanced thought, and certainly is a great improvement upon the sanguinary era when patients were bled to exhaustion, or when they went to their death in a state of intoxication, the time must come when many of the practices now in vogue will be superseded by a still more enlightened and scientific treatment

An abundant use of pure air always produces a quickened activity of all the vital forces Suitable exercises are certain to quicken the circulation and bring therewith corresponding benefits The judicious use of water, both hot and cold, is universally attended with benefit to the whole system, and there is a charm about bathing that commends itself to the good sense of every individual, were it only for the feeling of purity which it engenders, but when there is added to that the reality of protecting the body from attacks of disease, as well as relieving it of discomfort and pain, then the use of the bath enters the realm of prophylactics and remedial agents There are many kinds of baths, from the sponge, the river and the sea bath, up to the hot air or Turkish bath, and all have their place, though some are more capable of being utilized in a general way, and made more useful than others

The natural elements, air and water, are indispensable to the existence of life, and when modified by another natural element, heat, they become the most powerful, most salutary and unfailing agents yet discovered for the preservation of life, and the alleviation of those numerous derangements to which life is exposed This is no new principle or novel theory, on the contrary, it has been known, though at times imperfectly practiced, for thousands of years, throughout the globe, and is to-day, in spite of discouragement, receiving scientific and practical development

All religious institutions were based upon the ceremonial of cleanliness Baptism and bath are synonymous terms The ancient history of Egypt, of Africa, of East India, China, Japan and Persia, all give ample testimony to the efficacy of the bath in the treatment of disease Ancient Britain also gives abundant evidence of the same result As early as the sixteenth century, publications were issued advocating the use of cold bathing in disease, and one authority of the seventeenth century says "No part of physic is more ancient than cold bathing"

Suetonius relates that Cæsar Augustus recovered from a dangerous illness, after his other physicians had pronounced his case desperate, under the simple hydropathic treatment of his freedman-physician, Antonius Musa, who had been his domestic slave, and who had studied medicine while in the condition of servitude He appears to have understood the curative properties of cold and hot bathing in relation to particular diseases, and to have been well acquainted with the efficacy of diet and regimen, which he also employed in the case of the Emperor This event wrought a great change in the public sentiment regarding practitioners of medicine Musa was rewarded profusely He received a large sum of money, was exempted from all public taxes, was given the freedom of Rome, allowed to wear a gold ring, and his statue was placed next to that of Esculapius In further honor of him, the professors of physic were then, for the first time, admitted to the immunities of Roman citizenship.

That thermal springs, which are found in every quarter of the globe, first suggested hot bathing, is shown by the fact that all of them have been utilized for that purpose, from remote antiquity, and by all people, from the rude untutored savage to the most civilized nations.

Heat is at once the simplest and the most powerful of all the agencies of nature. It is the heat from which is derived the most important part of the beneficial effects of warm bathing, and the superiority of air in comparison with water, as the medium of a bath, is evident, for the reason that water can not be used for communicating heat to the body at a temperature much beyond 100 degrees, whereas air can be utilized for ordinary bathing at from 140 to 175 degrees, and for the remedial purposes much higher. It is this perfect command of temperature which the hot air bath places at the disposal of the scientific and skilled physician that constitutes its superlative merit.

The existence of the bath during thousands of years in every part of the world, gives abundant proof of its value, and it will be seen readily, that when the bath has been used as a curative in disease, the one great object in view has been to bring into play the action of air, water, and heat on the human body so as to excite perspiration.

From the fact that the form of treatment secured by the Turkish bath unites all the elements, making it a perfect combination of air, water, and different degrees of temperature, comes our belief and assertion that this form of bathing is bound to supersede all others, as being more complete and useful in every respect, and is eventually and inevitably to be recognized as the most potent agent in the physician's armamentarium. It is a process which will in a few minutes secure a general diaphoresis, bring the circulation to the extremities, equalize the arterial action, soothe disordered nerves, while it allays spasm immediately. It is obvious that such action would be of great service in every case of internal congestion, and in obviating diseases of the liver and kidneys. In the treatment of diseases of the joints, its efficacy is remarkable, also in all classes of cutaneous diseases. In bronchial or laryngeal inflammation the surface affected is instantaneously reached, and instances of gradual relief from chronic disorder, particularly gout and rheumatism, might be multiplied without end. At the same time it is an incomparable luxury, and most valuable as a means of training in health. In all diseases it is a remedy or palliative.

It is only necessary that the properties of the Turkish bath should be really understood to insure its adoption by an intelligent public. Its simplicity and natural action place it in antagonism to all empiricism. This bath stands alone on its merits, a great and acknowledged power. It will remain to diminish the pains and penalties that afflict the large majority of our fellow creatures, and to increase the good things that fortune showers upon us. It is at once the perfection and glory of all baths.

81 Columbia Heights.

INJECTION OF HERNIÆ.—Luton has recently reported (*Revue Mensuelle des Maladies de l'enfance*) that he has many times cured infantile herniæ by injection of 1 gram of a solution of sodium phosphate and sodium sulphate.

WHY BALTIMORE IS A HEALTHY CITY.

Read in the Section on State Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY D. W. CATHELL, M.D.

BALTIMORE, MD.

Baltimore lies in latitude 39° 18′, longitude 76° 36′. It is situated on the Patapsco River, one of the tributaries of the great Chesapeake Bay, which divides the State of Maryland into two portions—eastern and western, the city of Baltimore being on the western portion, about fourteen miles from the junction of Patapsco River with the bay. We have an excellent and large harbor for our shipping.

Baltimore covers an area of thirty-one and one-half square miles, and like Rome, may be said to lie on seven hills. Its soil is both healthy and favorable for building. The city has 99,987 houses, with an appraised value, including the ground, of $274,000,000. Its population, as ascertained by the police census of 1894, is 496,315, of whom 422,568 are white and 73,747 are colored. It has 780 miles of paved streets, with 234 miles of rapid transit street railways, running 785 cars, some cable, some electric, each car being provided with a fender in front for the protection of life and limb, and all stop to take on or let off passengers at the near side of the streets, instead of crossing the street before doing so, and each must come to a full stop before crossing any intersecting railway. By these rules our street railway accidents are reduced to a minimum, and in addition to business, car riding for pleasure is a source of both recreation and health to our people.

Our city has an inexhaustible supply of excellent water, chiefly from the Gunpowder River, kept in eight separate storage reservoirs, which have a total capacity of 2,274,000,000 gallons, the daily consumption of water being 45,000,000 gallons, while the daily capacity of supply is 300,000,000. This is one of our chief sources of health.

The rich and diversified soil, the swarming waters, and the teeming forests about Baltimore furnish an unsurpassed abundance and variety of food. Added to these, we have an unequalled climate for permanent residence, for neither the cold of our winters nor the heat of our summers continues long enough to entail deleterious effects on the general health. Our snows end with March and our autumn frosts begin with November.

Baltimore is chiefly surface drained, and although it has about thirty-five miles of underground sewers, the function of most of these sewers is to carry off storm water from certain localities.

The city has no slums, and comparatively few tenement houses, although, like all large cities, there are many thickly populated neighborhoods where many poor people live too closely huddled.

The mean temperature for 1894 was 55.9 degrees; the highest temperature of summer was 98 degrees F.; the lowest in winter was 7 above zero. Our average annual rainfall is 44 inches; the number of days on which rain and snow fell in 1894 was 134, and strange to say, the greatest monthly precipitation was in May, 7¼ inches, and the least was in March, 1¼ inches.

The total mortality in the city of Baltimore for the year 1894 was 9,486, of which number 7,242 were white persons and 2,244 colored, being a marked decrease in comparison with the five preceding years, notwithstanding a decided increase in population Our death rate for 1894 was 20 84 per 1,000, but if the death rate per 1,000 were computed as in other cities, upon an estimated population, instead of the U S census of 1890, it would show a rate of only 19 04 per 1,000 for the whole population, which would make Baltimore rank high among the very healthiest cities in the world

Among the 9,486 deaths there were 1,085 deaths of persons above 70 years of age

Taking the different periods of life separately, there were

Under 1 year	2,616
Between 1 and 2 years	669
" 2 " 5 "	476
" 5 " 10 "	255
" 10 " 15 "	148
" 15 " 20 "	316
" 20 " 30 "	778
" 30 " 40 "	780
" 40 " 50 "	735
' 50 " 60 "	801
" 60 " 70 "	832
" 70 " 80 '	701
" 80 " 90 "	322
" 90 " 100 "	59
" 100 " 110 "	8

The ratio of deaths of children under 5 years of age to the total mortality was 39 5 In addition, there were 721 still-births during the year

The death rate among our colored population is always greater than that of the whites This I attribute chiefly to their few opportunities for advancement, compared with those of the whites, coupled with their meagre comforts, limited opportunities and relative lack of knowledge of sanitary laws Thus, in 1894

The annual death rate per 1,000 white population was	18 85
The annual death rate per 1,000 colored population was	31 60

Among the chief causes of death in 1894 we find

Consumption	1,106
Pneumonia	790
Cholera infantum	440
Disease of heart	438
Cancer	264
Bright's disease	226
Typhoid fever	222
Diphtheria	198
Diarrhea	144
Influenza	132
Whooping cough	112
Accidents	109
Bronchitis	90
Scarlet fever	85
Childbed	82
Dysentery	72

The number of deaths in public institutions was

Baltimore city jail	2
Penitentiary	15
Hospitals and asylums	976
Deaths reported by coroners, including inquests	770

During the year there were 777 interments in the two public cemeteries, Eastern and Western, at the public expense

A comparison of the mortality in Baltimore for the past five years shows the following decreasing ratio

	Ratio per 1 000
1890	22 41
1891	22 13
1892	21 77
1893	20 99
1894	20 84

The vital statistics of our race tell us that the average duration of human life is about thirty-seven years Up to 1875 there were no reliable vital statistics kept in Baltimore, and I am ashamed to tell you that even now, almost at the dawn of the twentieth century, we have no complete record of the births, but of the 174,923 deaths that occurred in Baltimore, during the twenty years ending Dec. 31, 1894, we find the following large number of aged decedents

Between 40 and 50 years of age	12,651
" 50 " 60 " " '	12,752
" 60 " 70 " " "	12,800
" 70 " 80 " " "	10,779
" 80 " 90 " " "	4,972
" 90 " 100 " " '	759
" 100 " 110 " " "	95
Above 110 years of age	13

Nature has done a bountiful share for Baltimore, and man has done much to aid her, and of this her physicians have done their full share We have about four hundred and fifty regular practitioners in the city, beside quite a sprinkling of irregulars of all shades and colors We now have laws regulating medical practice, which bid fair to be of great benefit to the community Beside the great Johns Hopkins Hospital, we have scattered through the city and suburbs, the Hebrew Hospital, Bay View Asylum, Mount Hope Retreat, Spring Grove Asylum, Wilson Sanitarium, Samuel Ready Home, Maryland Blind Asylum and numerous other and well-managed hospitals and homes, some for the sick, some for the insane, and all for humanity, and each of these is doing its full share toward making Baltimore a healthy city

In addition to all these, we have various sanitariums, retreats and homes for sick children, free excursions for the poor, asylums, etc, which I might describe and praise too, if time permitted, but if prevention is better than cure, then these institutions all unite to do a power of good

Among other medical features, we have five regular medical colleges that send forth a total of about five hundred graduates yearly

We have lovely suburbs, which teem with the summer homes of our wealthy citizens and the cottages of our middle classes and our woods and parks, river and bay swarm with excursionists and picnickers during warm weather

Within our city limits we have 861 acres of public parks, divided among Druid Hill Park, Clifton Park, Patterson Park, Riverside Park, Harlem Square, Lafayette Square, Union Square and a dozen others, each acting as a resting and breathing place for our people and each adds its share to Baltimore's healthfulness

We are told by all travellers, that our Druid Hill Park is one of the most beautiful natural parks in the world

We also have several hundred ever-flowing public drinking fountains scattered here and there about the city, which are a great source of comfort and health, to both man and beast, especially during the summer months

We have a well organized and highly efficient Health Department A brief synopsis will show the important duties and responsibilities devolving on these, our custodians of public health, in 1894 It has a permanent corps of twenty-two vaccine physicians, whose number is increased when emergency requires During 1894 they made 48,475 calls, and vaccinated 12,042 persons Vaccination is compulsory, and no unvaccinated child is allowed to attend the public schools of Baltimore This is another of our sources of health

Our food inspectors inspect all food products, condemning any and all that are unfit for use During 1894 they condemned 67 322 pounds of various kinds of meat and 1,449 pounds of poultry, thus sparing our olfactories and guarding our health

Our milk inspectors examine milk, and spill into the streets all that shows by the lactometer a less specific gravity than 129, at 60 degrees F, or is proven by microscopic examination to be adulterated or dirty, and for these causes during the year 1894, 6,679 gallons were condemned and spilled Our milk supply for the year consisted of about 8,000,000 gallons of milk and cream, brought to us by twelve railroads and seventy country wagons, added to that gotten from the 1,126 cows kept in the city

We have an inspector of plumbing and drain work, whose duties and importance to the public health are obvious to all medical men, 3,595 inspections were made during the year

We also have an inspector of buildings, whose duties require him to see that all new buildings are erected with regard to safety to life and limb, and every dwelling house erected, however small, is compelled by law to contain a bath-tub—another decided source of cleanliness and health

There are two inspectors of covered gutters and sewer inlets, who make daily visits of inspection, cleaning and disinfecting wherever and whenever necessary Thirty-six tons of carbolate of lime were used by the Health Department in 1894 Their value to the public health makes it money well spent

Our coroners, five in number are all physicians, and in addition we have two post-mortem medical examiners, who made seventy three post-mortem examinations for the authorities during the year

We also have a public morgue, to which 163 bodies were sent—127 white and 36 colored, 140 of these were males and 23 were females Eighty one of these were subsequently claimed and buried by their friends

Baltimore has now a new and efficient quarantine hospital, with a disinfecting plant, equal if not superior to any in the country This hospital is on the river, a few miles below the city, and is in charge of a quarantine physician and his assistants Five hundred and three vessels were boarded and inspected during the year 1894, and twenty-four patients with infectious diseases were treated in the hospital During the year, 7,692 unsanitary mattresses from emigrant steamships were destroyed in this port Baltimore is the only American port in which they are totally destroyed

The city has twelve sanitary inspectors, who examined and abated 20,582 nuisances during the year, and had 286 vacant lots drained and filled It is also their duty to examine into all cases of contagious diseases diphtheria, scarlet fever, croup, measles, smallpox, etc, and to disinfect the premises after recovery In 1894, 1,977 cases were reported by the attending physicians, who are compelled by the laws to report every case The importance of these rules in maintaining public health could scarcely be overestimated

There were issued by the Health Department during 1894, 59,923 notices and orders to place premises in more sanitary condition, and 74,874 permits to clean privies were given, and every year on the approach of warm weather all persons are compelled to place premises and privies in a sanitary condition

In regard to night soil, 90,721 air-tight cart loads, equal to 18,144,200 gallons of liquid material, and 268,466 loads of garbage and ashes, were removed from the city in 1894, all by daylight, the former by what is known as the odorless system, to the two dumps, and were carried thence down the river in scows, and disposed of to agriculturists There were also removed 169,915 loads of street dirt and sand

In some portions of the city the streets are cleaned by sweeping machines, but the dirt is taken from the majority of streets, lanes and alleys by laborers, scraping and sweeping The daily average number of loads of street dirt removed was 600, and beside this, during the year, 9,987 cart loads of refuse and filth were removed from the various sewers, sewer inlets, and covered gutters, and 1,105 cart loads of vegetable and other offal were taken from the various city docks, all with a view to maintain the public health

In addition to garbage and dirt carts, we have covered wagons for the removal of dead animals, fowls, tainted meat, etc During 1894, 45,211 of the former and 2,713 pounds of the latter and more than 112,000 fish, crabs and eggs were removed, and all done so quietly that probably many of our people do not even know of the existence of such wagons

Our police force ably assists the health authorities in carrying out all laws relating to the public health It consists of 808 officers and men, maintained in 1894 at a cost of $825,000 To say that we have a model police organization with a most excellent detective service, would certainly be no exaggeration We have seven police stations and to each station is attached one of the vaccine physicians and a patrol wagon These wagons not only carry arrested persons from the signal-box nearest the point of arrest, but are also utilized for the humanitarian duty of carrying sick and wounded persons to their homes, or to the hospitals

There are two abattoirs and quite a number of slaughter houses, all under private management These are among our chief unsanitary features

Baltimore is lighted by 1,039 electric lights, costing 35 cents each per night, beside there are 5,932 gas lamps and also 1,036 gasoline lamps, in small streets and alleys where there are no gas mains These all conduce to safety of life and limb to pedestrians, and help to secure our persons and property against evil-doers

A few additional words I do not wish any one to infer that all of our improvements have been made at once, nor that they have suddenly dropped to us from the skies, or that they have been handed down one by one from the rainbow, as in fairy tales, far from it! They have cost much time, much labor, and much money Our city has exerted herself and must continue to do so, for there are other great strides to be taken before she reaches sanitary perfection But Baltimore is a progressive city, and when our brethren of this ASSOCIATION favor us with another session I hope to be able to report further and greater advances

Among other things we must establish and maintain perfect supervision over our water supply, and protect it against any and every possible source of pollution

We must adopt a more rational and scientific method of disposing of our garbage, fecal matter and other offal, either by desiccation or cremation

We must abolish our abominable privy vault system and adopt dry earth closets, or some other still better method

We must legislate the 97 cow stables, with their 1,126 cows, and all other nuisances, out of the city, and keep them out

We must abolish, together with all other pathologic industries, every private slaughter house, and place all abattoirs under such rules as insure full protection to the public health

We must devise some method of securing perfectly accurate statistics of births

Free public baths on an ample scale, centrally or conveniently located for the masses, should be established

The unjust yearly tax of $3 for each hose attachment for sprinkling and washing the pavements and streets in front of one's residence should be forever abolished, because these promote the public health

The dangers of every unsanitary lane and alley in Baltimore should be removed by making it smooth with asphalt

We, also, badly need a public disinfecting plant for the city, and a city hospital for the care and treatment of the milder contagious diseases, *i e*, scarlet fever, diphtheria, measles, etc, while smallpox, yellow fever, cholera, etc, should continue to be treated at the quarantine hospital

I am also strongly of opinion that our Health Department should be separated and isolated from all other city departments and placed in a building of its own, so that a citizen going in to pay his water bill, or to enter either of the many other departments adjoining, will incur no risk of encountering any one suffering with or coming from a case of contagious disease—a building where each function of the Health Department can be carried on separately

Thus would I briefly attempt to point out a few of Baltimore's many advantages, and to give you a glimpse at her vital statistics and her sanitary agencies, and, also, to frankly tell you of some steps still required to push her up to the full measure of a perfect metropolis

I shall mention one other great blessing we possess, and I am done, that is, that in addition to all else, *Baltimore is a lucky city*, for in addition to having hosts of worthy men and noble women, she escapes many of the sorrows that fall to some other communities, for she is neither subject to earthquakes nor volcanoes, tornadoes, cyclones nor blizzards, and neither war nor pestilence has ever laid its hand heavily upon her Beside, she has suffered no great fires, no sweeping floods, no withering droughts, no ghastly famines, or other dire calamities And thankfully appreciating these facts, *we, her citizens*, "*with malice toward none, but with charity for all*," We, Her Citizens, *are determined under God, to exert all the powers of our hands, and of our heads, and of our hearts, to make fair Baltimore, in the future as she is to-day, one of the healthiest and happiest cities in the world*

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THE IMPORTANCE OF THE STATE GOVERNMENT CONTROL OF ARTIFICIAL AGENCIES THAT MAY BE PRODUCTIVE OF NOISES

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7-10 1895

BY AUGUSTUS P CLARKE, A M, M D
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The inhabitants of the American States have long been noted for their hurrying and bustling habits, for their ceaseless, restless activities, and for their all but immodest disposition when setting themselves about to accomplish a purpose, not to intrust the fact to the keeping of a silent herald So marked have these characteristics become and so influential have they been in modifying the development of their personality that Europeans, surrounded by other amenities and pleasures, have fancied that the average American citizen is still but a son of the forest, that the noises incident to his movements are only the rustling of his feathery head-gear, that the implements of his trade are the disguises of the tomahawk, and that the acclamations expressed upon the success he attains are not unlike the war-whoop of his aboriginal predecessors

After eliminating from our field of vision all the extravagances of imagination indulged in by trans-Atlantic personages, there is, nevertheless, much that having been borne along by our peculiar methods of action has become more and more the subject of the deepest concern, and requiring also for proper correction continued interest and cooperation on the part of all Not the least among the factors inimical in no small degree to our health, comfort and repose, are the noises that are on all sides produced by artificial agencies Perhaps in the decades that have preceded ours, a person would not have been deemed patriotic or public spirited had he entered his protest against occurrences which have been regarded as incidental to the affairs of the greater moment, but it must be remembered that the rapid multiplication of the agencies in question has been carried on much more with the view of enhancing private interest than of providing for the needs of the public at large

The employment of the tramway system upon the streets of American cities was at first considered not only as an innovation, but also as an encroachment upon private rights, this system was at length endured and patronized by the abutters for the reason it was felt that those less favored might with greater facility be enabled to reach the more distant points of their destination The introduction of the trolley cars into the larger cities is not only an encroachment upon private rights of the inhabitants, but the whole management of such ponderous machines, through the crude and unscientific principle of construction, is not only a waste of force, but its practical application becomes a veritable nuisance Such a method of conducting travel we have reason to fear will to a very great extent continue to be so, on account of the insufferable noises that must necessarily result from the operating of such cars by the companies for the sole purpose evidently of gain Such harsh, bewildering sounds, such fiendish, hideous clangor with which the ears of the would-be sleeper must ever ring, can not but act injuriously upon his whole organism Though legislative enactments thus far have not been put forth in the direction to lead to the abatement of the evil, yet there is no sufficient reason why the State should not take cognizance of any factor that may disturb to such a degree the health and comfort of mankind

No good reason can be offered why boards of health should not be clothed with all necessary powers for the supervision of travel and of exercising a salutary control over all the means for accomplishing the same Indeed, there is more reason why such powers should be delegated than there is for granting authority to institute measures against an apothecary or other dealer who may chance to sell a package of sal soda, or of sal tartar, or to dispense a vial of laudanum, or other quite unimportant article, which may not be up to some arbitrary standard of weight or measurement

All must admit that there are unnecessarily made disturbing noises that should be prevented by legislative enactment The numerous whistles and bells employed on railway trains are often deafening in the extreme, and thus become the source of much discomfort, not only to persons who may be suffering from severe illness, but also to the inhabitants of an entire neighborhood The ringing of church bells, that betoken the coming or the presence of the parson, is often a merciless herald to those who may be too unfortunate to attend the meeting for the appointed service

It is becoming more and more apparent that in our country, where the public affairs are sought to be managed by popular sovereignty, less attention is paid in response to the actual needs of the masses than in those countries where the will of the people exercises but little influence in the election of rulers The hurrying through our streets, often at most unseasonable hours, of brick wagons, ice carts, milk teams, market men's loads, beer carts, and of the numerous other vehicles, all for private gain or for a syndicate's exchequer or for a company's till, is most uncongenial to all and is often prejudicial to that large number who are dependent for their activities on quiet and refreshing sleep

Those who are weak, or who are suffering from peculiar idiosyncrasies, or whose proper psychic balance is dependent on favoring influences, should not be left to suffer through the capricious temper, or be brought under the power for gain of the heartless and unfeeling members of the community I venture to say that in almost every municipality of our metropolitan district, or our Greater Boston, the daily noises incident to artificial agencies, to say nothing of the avoidable noises made by persons who have not the slightest regard for the public welfare, are frequently greater than what are heard in many of the larger European cities When any complaint or remonstrance is presented to the officers of the law on account of the ruthlessness of such persons, the answer almost invariably returned is that noise is but a mere inconvenience It has not been uncommon in my own practice, and I feel certain that it is not unusual in the practice of other physicians, to have patients who, while undergoing the effects of long and exhausting illness, are compelled to endure their full share of this brain paralyzing and nerve destroying agency

It has long been a recognized fact that in man the greater part of the impression that is received reaches the sensorium through the medium of the different special senses Odors that are agreeable produce, for the most part, a salutary effect upon the organism, those that are disagreeable, when endured for long continued periods, exercise an injurious influence Objects, especially articles of utility, presenting rich and beautiful colors are conducive to the health and strength of the person, the same may be said of all agencies that transmit through the several special channels of communication pleasing and agreeable impressions Undue irritation or excitation of any one of the senses or of the organs of the body is liable to effect pathologic changes, either from producing immediate and serious derangement in the histologic elements, or from not allowing sufficient intervals for rest and recuperation The intricate and delicate arrangement of the auditory apparatus is no exception, it can not repel the persistent assault from noises thus made upon it without becoming the center of a diseased condition Persons who are exposed to such harassing attacks appear dwarfish, undeveloped, or with a retrograded intellect, morbid in their impressions, and if, perchance, they should rise to any considerable degree of activity, they would still be prone to relapse into a listless state that borders on neurasthenia, and to other varieties of the neurotic state

When one comes to consider what hideous noises are endured by the inhabitants of our more densely crowded municipalities, it would seem that such people are, indeed, lacking in moral stamina, that they are really deficient in what is essential to the development of the higher attainments of mankind It may be said, however, that the pursuing of the personal aims and ends of the individual tend to lessen interest in matters not directly conservative to such attainments, there then will be brought about no unity of action and no well directed opposition to encroachments on rights regarded only as public in the advantages which they insure

In order, therefore, to overcome the several factors diverse to the higher accomplishments for the public welfare, and to elicit personal attention, irrespective of private enjoyment, for the support of such measures, it will become necessary to bring into operation other methods, to be carried out in all their details for the proper administration of affairs of state The building of great public thoroughfares, and especially the grading of such avenues of travel, should be carried on more with the view of conserving all the elements of public health and convenience than of adding features that may be helpful or useful in merely one direction only In this connection may be mentioned notable instances of the unwise policy so often pursued in the paving[1] of many of our most important streets with rubble stone, or with stones that have been broken into cubes or blocks, and then laid in the usual manner of doing such kind of work Streets thus prepared become not only the source of great annoyance to the inhabitants by the loud rumbling, by the rapid driving over them of the many heavy wagons, which is often done at unseasonable hours, but they also become, as all sanitarians admit, the source of danger from being the receptacle of filth from drainage matter that continually gravitates into the interstices between the stones, that are laid in such a primitive manner The employment of concrete, cement or asphalt,[2] or other similar material, on our streets, as is usual in some foreign cities, would be an improvement and would fulfill most of the purposes for which such streets are graded The use of properly constructed vehicles, the regulation of the driving, and the hours allowed for the travel should be under the strict control of the government officers Much of the noises of our street car system could undoubtedly be prevented by the more general adoption of underground ways, or, by what is a better system, the building of roads after the manner of the Ringbahn, of Berlin If the latter should be adopted the stations might be at greater distances from each other Tramways, with cars of light gearing, should be the only ones allowed for intramural service While the fostering of a patriotic spirit should be encouraged and allowed the broadest latitude on all proper occasions for its true exhibition, its conservation should not be jeopardized by the government's yielding to the caprices of unthinking persons, as is so often shown by its resorting to vain and useless mockery in its attempts at public celebrations On such occasions the discordant ringing of bells, the blowing of horns, the loud cracking and firing of torpedoes, the display of what may really be regarded as "antique and horrible,' have helped to displace many of the better class of residents of our eastern cities, and have likewise been the source of much discomfort in their relationship, but unfortunate in their location and surroundings

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[1] See Medical News of Philadelphia August 1893 See also the October number of the same year of the Buffalo Medical and Surgical Journal In both of these journals the baneful effects of city noises are ably discussed

As I said before, I can recall as occurring in my own practice numerous instances of persons who have been victims of such public disorder, or instances of persons whose recovery has been materially retarded by the demonstrations of such public license Have not the minority or the few people who thus suffer, some vested rights that the majority is bound to respect? Surely, the persons whom the physician for the most part is summoned to treat, belong to this latter class It is in the interest of this class, and for the more unfortunate, generally, that the true physician was first led to choose for his life work the profession of medicine, that he ever seeks by the employment of all his energies to improve his talents for the attainment of the highest good This he does that he may fulfill the mission to which he feels that he has been called by divine appointment

REFORM IN MEDICAL EXPERT TESTIMONY

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md , May 7-10, 1895

BY S S HERRICK, M D
SAN FRANCISCO

The disagreement of doctors is both a proverb and a reproach a proverb, as if it were constant and axiomatic, a reproach, as if it were needless, unreasonable and peculiar If medicine were an exact science, men with equal opportunities for acquiring it might be expected to agree substantially, as they do in chemistry and physics, but the personal equation is a disturbing element in the mind of both physician and patient, of a variability defying the power of the differential calculus That other people should disagree is a matter of course, and generally of no consequence Clergymen disagree widely in doctrines believed to affect supremely the eternal welfare of mankind, and in this land of liberty and toleration a large fraction look on with indifference, and the remainder with serenity Lawyers are paid to disagree, their clients are not satisfied unless they are radical and stormy in variance, yet lawyers are loudest in complaining of the disagreement of doctors, especially when they may be supposed to be paid for it

The above is said rather to explain than to justify the ground of complaint Substantial agreement in medical testimony is very desirable and probably possible, though at present impracticable in particulars This much by way of introduction to the special subject, which has reference to expert medical testimony in courts of justice

"'Tis true, 'tis pity, and pity 'tis 'tis true," that the figure generally made by physicians as experts is embarrassing and often discreditable to themselves, and that the oft-repeated spectacle has brought reproach on our calling, but I hold that the fault is rather with the system of taking medical expert testimony than with the witnesses themselves Their services are sought for the purpose of supporting the claims of parties in contest, and their opinions are always known beforehand by the lawyers who call them If their views were not known to be more or less favorable to the party requiring them, they would be avoided rather than sought

Furthermore, physicians are human, and can hardly escape bias in favor of a friend who happens to have a case in court, whether as client or attorney He is asked by an interested party, friendly to himself, to give opinions, knowing that, if favorable, they would be more acceptable than unfavorable ones, and he is too apt to assume a partisan rather than a judicial frame of mind The main check to such insensible bias is dread of cross examination Still more to be deprecated is the custom of paying a considerable fee to the expert by the party employing him If this be given in advance, it is fairly presumed to secure the most favorable opinion possible, if not given beforehand, then it is expected that the honorarium will be according to the value of the testimony In either case the fee is demoralizing to average human nature On the other hand, expert testimony without a fee, either express or implied, is given grudgingly Parties in court find themselves in a situation like that of people at a public table who feel constrained to fee waiters in order to secure good service The comparison is humiliating to members of a liberal profession, but human nature varies less in kind than in degree in different stations Here it is fair to remark that physicians are no more responsive to a pecuniary inducement than lawyers or even clergymen Pleading and preaching both have a recognized money value, the dispensers are not apt to depreciate their own worth, and sensible people pay them accordingly

Under the existing practice of taking medical expert testimony, lawyers intend to use physicians for partisan purposes, and whatever moralists and the public at large may think of the consequences, the legal fraternity have no more right to find fault with experts than duelists have with each other s weapons It is wrong for the law to allow medical men to be used as partisans in such controversies An effectual remedy is needed for this abuse, both to spare the expert such degradation and to promote justice, and this we shall now consider

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[2] Op cit

The first and essential requisite is, that expert witnesses should never be chosen by parties in contest, nor by their legal representatives, either in civil or in criminal trials If possible, their opinions on questions at issue should not be known beforehand I would suggest that the court be authorized by law to summon a suitable number of persons to act in the trial as experts, that they be questioned as to any possible bias in the case and that counsel on both sides have the privilege to object on such grounds, as in case of jurors, but without privilege of peremptory challenge The court, jurors and counsel on both sides should then have a right to question the expert Such a plan would give him a judicial position, more satisfactory to himself and vastly more conducive to fairness and justice The law should allow adequate fees, according to the value of the expert s time in his ordinary business, to be fixed in the judgment of the court and included in the ordinary costs of trial

I am clearly of opinion that legal counsel should not be allowed to suggest names of experts, nor to have anything to do in their choice beyond aiding in the discovery of any possible bias, and objecting for such cause Neither should they be taken at hazard from a list of practitioners, as jurors are drawn from a polling list A man competent to preside over a court may be trusted to select experts from the best of their class In a city there is ample room for choice, but in a rural community it might be necessary to summon men from a distance

The court should be authorized, in his discretion, to require one or more experts to listen to the testimony of ordinary witnesses, before giving their own opinions, for this course would obviously qualify them to understand the case and assist to a just and correct decision This might be made optional with putting a series of hypothetical questions In either event the same precautions should be used to guard against outside influence upon the experts as are taken with the jury, and for the same reason

Since the foregoing was written, I observe that the Illinois State Medical Society has proposed a legislative act authorizing the judges of the Circuit and Superior Courts to appoint experts in medical and other sciences, for the purpose of giving opinions upon the evidence as presented in hypothetical form in both criminal and civil trials The term of appointment is to be one year, and the judge may summon as many as three in one case They are to be subject to cross examination, but only upon points touched in their opinion I think it safer that experts in an important trial be selected for the occasion and at the opening, so as to preclude their being tampered with by interested parties beforehand Their opinions should be no more forestalled or anticipated than those of the court and jury

This matter is one for each individual State to settle within its own jurisdiction, likewise for the national government within the purview of the federal courts It would be well for a suitable example to be set by a Congressional act applying to trials in federal courts, and then we might hope that the several States would take like action so as to make the practice substantially uniform throughout the country In my judgment it would be fitting and helpful for the AMERICAN MEDICAL ASSOCIATION to urge upon Congress some such measure as the one here briefly outlined, not only for the credit of our profession, but still more in the interest of justice

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THE PREVENTION OF ASIATIC CHOLERA

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7-10 1895

BY ELMER LEE, A.M , M D , PH B

CHICAGO

Asiatic cholera is one of the pestilential diseases that remains to menace the happiness and prosperity of the human race In civilized countries epidemics are more and more rarely occurring, but cholera is still a dreaded and fatal disease in periodical epidemics of wide extent in civilized Europe To-day the disease prevails almost continuously in some portion of southern Europe and western Asia The people in these countries are of two notable classes, those of the highest, but the majority of the lowest intelligence Superstitions offer obstacles that so far have prevented the development of prophylactic measures against ravages of epidemic cholera When a people such as are the occupants of southern Russia, threaten to murder the priest of the parish because he endeavors to introduce, for their use in times of cholera, so simple an agent as carbolic acid, it is not strange that preventive measures make slow headway The Russian populace during the last epidemic of the year 1892, actually murdered a physician in cold blood, simply because of his profession They believed that he, with other members of the profession, was indirectly the cause of their suffering and death Mobs attacked the hospital barracks, dragged the patients into the open places, laid them on their backs in the hot sun, destroyed the hospital, threatened the lives of doctors and nurses, and in one instance a doctor was martyred In another instance, in order to save his life, at the hands of these sadly superstitious people, it was necessary to place a physician in a coffin and carry him as if dead to the outskirts of the town Even in more enlightened portions of civilized countries, grave difficulties present themselves to important measures relative to protection of human life in times of epidemics

It is a long time since there has been an epidemic of the cholera in the United States, but it is perhaps an open question whether our own people in some instances would behave in the most enlightened manner While it is agreed by the profession universally, that it is desirable to prevent epidemics, it seems everywhere to be scarcely possible to meet the laudable desire Up to the present time, there have been and there are a number of propositions concerning the prevention of Asiatic cholera The success of measures of prevention has not realized the expectations of the advocate who has proposed them A most notable and widespread interest and enthusiasm was produced ten years ago by Ferran, of Valencia, Spain The Doctor heralded to the world that by the use of his attenuated cholera germs, the disease was both quickly and surely curable, as well as preventable His proposition received almost universal consideration, but to day the proposition receives absolutely universal neglect This is the sad history of the great hope that was extended throughout the civilized world, that at last a great man had discovered a method equal to the requirement Expectations ran high, the medical press, as well as the secular, was filled with seemingly strong and convincing facts that went far to establish the value of Dr Ferran's proposition, but alas! as have so many propositions during our own brief generation, it waned and to-day is only remembered on account of the notoriety of the failure Since his day, other equally intrepid investigators have had propositions to advance Some of the propositions have been worthy of serious consideration, some of them have been ridiculous In every instance the proposal to protect human life from the contagion of cholera has consisted of some foreign element to be introduced into the blood circulation The principle underlying the introduction of foreign substances into the circulation is that of antagonism Some of these substances proposed to be introduced into the body have been animal substances, many of them mineral The disposition of the moment, especially the disposition of European investigators, is along the line of animal viruses These viruses are of two kinds the newer kind is the sterilized toxins of the disease to be prevented, the older form consisted of attenuated bacilli Both forms have sadly failed to prevent the disease feared

The latest proposer of a virus of animal nature that would prevent Asiatic cholera is Professor Haffkine, of the Pasteur Laboratory, a Russian by birth and education The Doctor is an intrepid experimenter, a faithful observer, and a profound bacteriologist His great and untiring efforts seriously deserve a better fate than the results of latest experiments warrant Encouraged by the hope of success, he has visited the home of Asiatic cholera in India, and a great many of the natives and members of the native army, were inoculated against cholera The report of the results of his inoculations, show that 70 per cent of the inoculated subsequently contracted cholera, whereas the percentage of the natives not inoculated who contracted cholera did not exceed 67 per cent This is truly disheartening, but it was what was to be expected Inoculation by animal viruses predisposes to Asiatic cholera, the opposite result to that which is desired Inoculation against cholera has signally failed in the hands of each successive prophet The virus subcutaneously introduced produced retrograde metamorphoses similar to the effect of the disease itself The experiments in Calcutta by inoculation during the past three years have shown better results, but the conclusion is valueless for the reason that that community has not been visited by Asiatic cholera during the entire period of the experiment If the attenuated germ and the sterilized product of the germs, or the sterilized product of the disease itself, after the conscientious trial of a generation fails, what hope remains along this particular line? There is nothing left to be tried, and it appears to me the case is hopeless in this direction My own conviction honestly revealed, denies any prospect of a realization of such hopes

A still later earnest, intelligent, educated enthusiast in our own country comes forward with a new theory Dr Reginald Leach, a worthy and honored graduate of Dartmouth, proposes to prevent Asiatic cholera by a process of introducing arsenious acid into the circulation His conclusion is the result of theoretical deduction The proof of the value of the deductions has not yet been established, but the high standing of Dr Leach entitles him to our most respectful consideration He assumes, and in his assumption he has my concurrence, that to prevent a disease such as cholera, an agent is required which is in itself able to cure that disease This is good reasoning, this is from my standpoint literally and actually true Now, as to the selection of the remedy The Doctor holds with me that the propositions of Pasteur, of Behring, Haffkine, Hammond, Ferran, and others of that class are faulty, because they use an animal toxin for their preventive measure An animal toxin, the Doctor says, is necessarily uncertain in its dynamic force, owing to incidental and unavoidable causes In addition to that, the morbid products of vicious character are liable to accompany the curative animal virus, owing to the impurity of the source from which it is to be taken Consequently, Dr Leach proposes to use a definite unvariable mineral of known strength, a mineral which can be weighed and the dose made exact He reasons that there is some analogy between Asiatic cholera and malarial disorders, and that this mineral substance likewise is able to exert its peculiar protecting influence. Virchow has stated that there is some analogy between the effect of poisoning by arsenic and the disease, Asiatic cholera Upon this basis of analogy, the theory is constructed in part, that that remedy which produces an analogic disease to cholera may be the remedy which will cure a prototype of that analogy Another conclusion entertained is that while the morbid products of disease used as viruses for inoculation produce retrograde disturbances of the human body, on the contrary, arsenic is said by Bartholow, as the Doctor's authority, to produce tonic and reconstructive effects Theoretically, this may or may not be true Practically, the conclusion has not been determined It is a serious question in my mind as to whether it ever can be proved to be true The claims for prophylactic effect of arsenic are being investigated by certain colleagues in Lucknow and some other parts of India Whatever may be the result, it is too much to hope that the prevention of Asiatic cholera can be secured by introducing any corrosive mineral substance into the circulation Arsenic is an intense corrosive, and whatever its influence may be, its action is that of a foreign corrosive substance It has by right and by nature no natural place in the human organism. The reasoning from the point of theory by Dr Leach is clear and deeply interesting and worthy of consideration The whole subject has been plainly presented to me by the Doctor in the form of a personal letter, but it is too important a document to be retained by me as a private paper It is my wish that it be included in the Transactions of this Section for publication in the regular way

The prevention of cholera must necessarily be along two lines 1, the measures instituted and executed by the State and 2, those means and measures to be carried out by the individual The enforcement by the State of modern sanitation, modern hygiene the principal feature of both the preceding, being a free supply of pure water for public and private use, constitute the wisest and the best provision as a public policy The application of rules of strict and severe and unyielding quarantine measures is neither humane nor is it necessary

Cholera is a preventable disease, but to prevent cholera requires cooperation between the directors and the directed Education and the growth of intelligence alone will secure protective cooperation What can we do in a place where its citizens, when commanded by the authorities to restrict their use exclusively to sterilized water, reply as they did along the banks of the Volga in Russia, that they will not do so because God Almighty did not intend them to drink boiled water, for if he had he would have boiled the water himself The day when sufficient intelligence will inspire the motive for cooperation between the authorities and the masses is somewhat nearer but still a long way off

Personal prophylaxis against cholera would avail much if the result of personal intelligent instruction Victims of cholera are chiefly persons who are themselves victims of vicious appetites or vicious habits The excessive use of alcoholic beverages is without an equal as a chief factor in preparing the organism for an invasion of cholera Excessive use of tobacco likewise weakens the system and invites cholera Unscientific cooking and the too frequent use of animal foods are productive of a condition of body which encourages cholera The insufficient consumption of water, and especially pure water, is of all factors the most conducive to the acquirement of this disease One preventive which would be a universal prophylactic against Asiatic cholera is the condition not as frequently found as it should be, which is known by the name of good health Pettenkofer, of Munich, showed by his experiments upon himself, that with normal secretion of gastric juice, a tumblerful of cholera bacilli could be taken with mirth and impunity Gastric juice is a corrosive substance secreted in the normal stomach, that attacks and cuts to pieces quickly and surely, every organic particle of matter that comes in contact with it It is fully taught and fully believed that cholera is produced by organic germs which enter the stomach through the mouth in the contaminated water which is drank, or in the food which is consumed The sentinel, in good health is vigilant and absolutely prevents every form of organic substance from passing the threshold into the human citadel But if the guard who stands watch at the door is stupefied and rendered impotent by his own vicious habits, he will permit the foe to enter, and the house to be invaded Healthy tissue, together with a healthy mind, is the prophylaxis universal as to time and to place against every invasion of the system by Asiatic cholera

It was my experience during a stay of six weeks in the Obonkoff Hospital in St Petersburg, to see many cases of Asiatic cholera There were 600 persons afflicted with cholera at the time of arrival The cases of cholera were principally among the lower or lowest classes These poor people live badly, eat poorly, and drink excessively, but instead of drinking pure water, they substitute a Russian liquor, and frequently while under its influence they drink water during the heat of the day from the filthy canals which divide the city *into three parts These canals are so* foul that they resemble to some extent the Chicago River Fish can scarcely be kept alive for even a few days in them Very many of the men who came to the hospital sick from cholera, contracted the disease through their ignorant use of the contaminated water from the canals of the city The preventive measure that is universally employed, and which commended itself because of its good results, was the provision for a supply of boiled water for all the inhabitants It is wise in observing to take note of a measure so simple, yet so generally recommended as the use of pure water during epidemics This sensible measure is the only likely preventative of Asiatic cholera During the prevalence of the epidemic in Hamburg, Altoona a division of the city, was supplied from a different system of waterworks, from that of Hamburg, and while cholera raged in Hamburg to the extent of 21,000 cases in five weeks, there were no cases of cholera in Altoona, which was only separated from Hamburg by the difference in having a separate waterworks which supplied filtered water as against unfiltered water to the residents of the infected city Pure water will save Hamburg from future epidemics of cholera

100 State Street

LETTER FROM DR LEACH

PARIS, TEXAS, April 6, 1895

Dr Elmer Lee, 100 State Street, Chicago, Ill,

My Dear Doctor —Your very welcome favor of the 3d inst came to hand but shortly, and I hasten to reply that against your very large practical experience with the disease, I can not pit my remedy (as yet but partially tested) as a curative, nor do I so wish to do, for I hastily acquiesce in the verity of your special plea for absolute cleanliness in the treatment of Asiatic cholera and I also have my apology to offer for some unmeant abstruseness which seems to have slipped into my letter of the 29th ult, for I did not then, nor ever, mean to commend arsenious acid, nor any other form of arsenic, as anything else than the remedy, *par excellence*, as a prophylactic against this disease, believing, always that with absolute cleanliness, followed by the judicious exhibition of the proper drug, this disease may be reduced to the status of, at least, that now held by the more loathsome variola or possibly to something even better still, for I am at least sufficiently enthused with the belief in arsenization vs cholera to make any reasonable sacrifice for the pleasure of personally testing the alleged efficacy of my drug to prevent, but to date I have been handicapped by a succession of misfortunes which have wellnigh buried me in that oblivion it seems the desire of the majority to relegate us and the misfortune of all such who are adventurous in medicine to that point where those who dare but follow pronounce each temerous

I assure you, therefore that I appreciate to the utmost, the honor of the attention you have thus far bestowed upon my hypothesis, and trust it may be my good fortune ere long to forward you some more convincing news from the East, of the efficiency of my chosen drug as a prophylactic against this fell destroyer of our fellow beings, meanwhile, I trust you will excuse me when I acknowledge a timidity in asserting views diametrically opposed to the generally accepted theories of the day as presented by Pasteur, Haffkine Hammond Behring and others but at the same time accord me the privilege of the paradoxical position of apparent temerity in asserting my views on arsenization as the only true prophylaxis against cholera (as you have seen it) I believe logical reasoning can arrive at, and accredit me with the desire only to better our standing as preventers of disease however attained

As you say, my theory is clever and engaging, please do me the further honor of reading something more of the same which will more fully acquaint you with the wherefore I am so confident of its ultimate good to mankind, and then, if you please, reward me with your further correspondence upon this very intensely interesting subject

Granting that you will continue to read to the end, I take great pleasure in stating that I find, in reading up on my opponents (inoculation of animal virus) that Toussaint and Chaveau first recognized the fact that not only the attenuated disease germs but also the sterilized products of bacterial life, could communicate immunity, but Behring says the acquired immunity is of a relatively short duration and the dismal results of Haffkine at Lucknow show that he there lost over 70 per cent of the inoculated, while there was a mortality of less that 67 per cent among the uninoculated showing a morbid condition we would wish to avoid in alleging prophylactic virtues of anything, therefore please note that while I shall attempt to show the fallacy and even dangers of other hypotheses on the prevention of Asiatic cholera, I do not do so till I feel confident I have something logically correct as a substitute, and, therefore, not as an iconoclast but as a simple investigator do I propound my own theory to you as to all others, hoping only now to sufficiently interest those who may have the ear of public opinion, that tests may be made where such is possible, and the sooner the better, as the more certain of something tangible and reliable

We know that Virchow first promulgated that "many cases of acute arsenical poisoning are not distinguishable by their symptomatology or morbid anatomy from cases of epidemic cholera," that Farrington proclaims that arsenic "excites intestinal disease which is almost identical with cholera, even the organic growths of cholera are found in the discharges from the arsenic proving," also that since 1873 sulphuric acid (as I wrote in my last) has held a high place among the alleged preventive measures against this form of cholera Therefore in handling this much mooted question I ask your forbearance and a reservation of verdict until I have presented more testimony than I felt it my privilege in my letter of the 29th ult, and in doing this you will please note I shall attempt to faithfully present all sides of the question, at the same time claiming most for arsenic as the preventive of the disease, as well as the superiority of drugs over all kinds of animal viruses as preventatives, because I am with you in my conviction that the whole principle now underlying allopathic practice is incorrect, and I say so though I am a graduate of Dartmouth College also that I do not now follow the precepts of my alma mater

Though this may seem already long I have but just begun, yet shall try and not burden you with a novel method of cure, but only present a prophylactic measure as different from a curative as is hygiene from medicine, yet as allied in significance and utility I follow the same general trend of thought as that of all our illustrious predecessors in preventive medicine (for there is but one royal road to success) but am constrained to choose a drug instead of their inoculation with the animal viruses or antitoxins, for I choose more measurable substance, which, in exhibition as a prophylactic against cholera, is within our power to control by regulating the dosage and within our ken in most probable effect, at the same time eliminating possible idiosyncrasies in persons of unusual susceptibility, but even in them prepared to meet any untoward symptoms with a known antidote such as we have not for the animal viruses

I choose a drug because of the fact that extraneous noxious agencies (such as natural diseases and animal viruses) possess subordinate and often extremely conditional powers, while drugs possess absolute and unconditional powers far superior to the former in their ability to produce morbid discordancy or the antitype of the prominent, uncommon and characteristic signs and symptoms equal in number to the disease to be prevented which must be the power of any protective to protect I choose arsenic, therefore, because, as Hippocrates says "Experience has demonstrated that only that remedy will prevent a disease that possesses the power of curing the disease feared, and which can produce reaction in the system which is directly antagonistic to the disease and its influences" Though I do not claim that the inoculation process with the sterilized viruses will not cure the disease feared, I do assert that in a system that might otherwise demonstrate cholera, that inoculation with animal viruses can not produce reaction directly antagonistic to the disease and its influences, but on the contrary, with cholera, I claim that the inoculation process (contrary to the same process in smallpox) weakens and makes more susceptible to the influences of the natural disease each one inoculated, and by virtue of its similar powers of destructive metamorphosis to the action of the disease, epidemic cholera

I choose arsenic, also, because long before the profession was dominated by the manufacturing chemist, arsenic was known to be one of the most potent remedial agents in combating this disease, and is even now quoted by Bartholow as "one of the numerous remedies proposed for the cure of this disease," and by others as "indicated in all stages of the disease, "and as it is tonic in effect and a reconstructive, both of which are diametrically opposed to the destructive metamorphosis at work in the cholera patient or him likely to become such I choose my drug also because, as Wm Henry Porter says "The arsenites (that is the molecular elements which constitute the arsenites) are intensely irritating and poisonous to all forms of protoplasmic life, both animal and vegetable At the same time they enhance the accumulation of tissue throughout the whole animal economy and when this is done diseased processes all through the system are in part or completely removed and more or less of a new normal or healthy activity is brought to all parts of the body"

I choose arsenic, also, because authority and experience teach us that the human economy is more susceptible to drug action and the vital force more responsive to its magic touch than to any miasm or perversion of nature's laws, therefore, while I acknowledge that sterilized products of bacterial life might communicate a like immunity, accord me the privilege of stating that many may be the imperfect results of chemic action in this process rewarding us with such prognoses as awaited Haffkine at Lucknow and Lady Montague in England where, in either instance, the results were such as could not be predicted by the most gruesome pessimist of that time or of this, affecting as they did such monstrous mortalities that thanks to Jenner many were saved

As Behring says of his antitoxin "The acquired immunity is of a relatively short duration," so I assert of Haffkine's inoculation, and likewise acknowledge a probable short immunity from arsenization, for I accept authority for the statement that "the effects of arsenic continue in the system from a few hours to four weeks, or longer, according to the size and frequency of the dose," yet while the effects of inoculation are not known positively they are of arsenic, and so far as yet demonstrated the results show for the former more of destruction than protection, while for arsenic more for protection and none for destruction In this, I take no account of the 200 cases reported by Simpson from Calcutta, where there had been no danger of infection for over three years previous to his inoculations Such misleading reports can have no effect, pro or con, upon the actual prevention of this disease, and their publication as made in American newspapers and medical journals is simply wrong, to say the least, for a prophylactic to command the courtesy of the name must protect a majority of those alleged to be protected, and only where disease and danger to infection is active and imminent and not in situations where it may have existed in the past but has not since reappeared

In such times as these, therefore, when we are seeking after the true preventive for each preventible disease, with a loyal but misguided enthusiast in the Orient sending to our Western civilization only the immediate results of a most pernicious though seemingly very plausible theory, we can and do realize and recognize the sacrifices of the investigator into the occultness of disease, more especially this of epidemic cholera, yet only to the successful discoverer of that protective which will protect all, be that what it may, can we honestly render our respectful acknowledgments To return to the why and the wherefore of the proposed substitution of arsenic for all others as a preventive of cholera we recall the facts relative to cases of supposed cholera at Cincinnati in September, 1892, and of similar cases at Little Rock in the following month, wherein the auxiliary diagnosticians of the microscope and chemic analysis were required, and in the first instance showed similar though not identical germ life to Asiatic cholera in the milk drunk by those victims, while in the second instance chemic analysis demonstrated arsenical poisoning at Helena while the microscope showed the Little Rock cases to be those of so-called winter cholera In all exemplifying bacteriology the acme of diagnosticians is germ diseases (after the germs are admitted) and Asiatic cholera and arsenic poisoning are, as Virchow so aptly states, indistinguishable (oftentimes) by their symptomatology and morbid anatomy from each other (except, as stated,) by the auxiliaries here noted

If these be facts, and I believe all know them as such, then truly a drug is eminently superior to any animal virus or if there can possibly be a better process than the one of Haffkine or Ferran (with the excreta of the cholera patient, sterilized or not) why not a drug which we have known in effect for the past century, instead of risking a repetition of our certainty to infection with the disease feared, as well as some possible worse disease Experience has shown recently in India that there is more danger to the inoculated than to those where no precaution against infection was made, and remembering the results of inoculation from 1721 to 1783, and that the process of sterilizing can be unsuccessful at times (the cause of Haffkine's late failures) then why place ourselves and patients in the unfortunate position of Lady Montague and her enthusiastic collaborators, when they produced (of course unintentionally), a condition which may best be described by that trite old simile of the early English and known as "the groans of the Britons," in which they are made to say 'The barbarians on the one hand drive us into the sea, the sea, on the other, throws us back upon the barbarians, and we have only the hard choice left us of perishing by the sword or by the waves"

If this appears far fetched my dear Doctor, look at the results in Haffkine's Lucknow inoculations in which it was supposed the sterilization of the virus there used was faulty, and if such was the case *there it is but fair to presume that* in any of the "hair splitting processes of eliminating individual or family characteristics or diseases from the excreta of the cholera patients, we may never have a truly sterilized immunizing virus containing only the comma germs and their toxic results or combinations For example let us look upon an imaginary threatened epidemic of the disease and in the following personal manner, *wherein you will* imagine yourself in imminent danger to infection because your nearest neighbor has the disease You each use the same well for obtaining your supply of drinking water and your families exchange the ordinary courtesies of such relationship, but you know him or at least suspect him the domicile of syphilis, scrofula or tuberculosis This is the only case thus far, and inoculation as now promulgated, the only preventive measure known to the profession

If Scylla and Charybdis presented such *fearful obstacles* to the usually undaunted ancients, which of these seems the more favorable to you? the Scylla of the hardened syphilitic or the possible swirling twisting and contorting Charybdis of Asiatic cholera? for in this maybe a little overdrawn simile, you see inoculation against cholera as it might exist and the consequent predicament of our people This is in fact the only view *to take of inoculation as it exists*, as shown by the grievous experience of our colleague in India, yet, despite all this we *find the leaders of preventive* medicine of to day forgetful of the near past and the wave of a more certain and accessible prophylactic which is offered in arsenization, of which I had the pleasure in my letter of the 29th ult, of reporting so much of what is good and none of a like character to the inoculations of my unfortunate colleague

If, then, Pasteur *prevents hydrophobia with a virus which* presents symptoms in the inoculated almost identical with the rabies canina, and Jenner's vaccine may, and sometimes does, exhibit such a similarity to true smallpox as to question the purity of the virus, and it be a fact, as Virchow says, that arsenic produces a condition which may preclude a positive differential diagnosis with cholera to produce this effect, then the arsenious acid must actually occupy the exact space or place in the animal economy or affect the intestinal pabulum in a like manner (as I think I *wrote you* before) as would true Asiatic cholera, (and it matters not *which is the solution) to there demonstrate its certain effect* Therefore, by the willful arsenization of men up to a condition of slight physiologic effect of the remedy, such, for instance, as is produced *by the animal virus*, this process must and will effectually prevent that one so treated simultaneously demonstrating in himself the disease feared, and just as surely, and upon exactly the same hypothesis that we presume and logically conclude that the vaccinated can not suffer simultaneously the full virulence of variola, yet in this we need not be more void of common sense *in our* expectations of arsenization than of vaccination (already sufficiently tested *to satisfy a big majority) as facts* simply verify, in the latter, that personal idiosyncrasy in the well is quite a factor in the equation and *that* such affects its prognosed results as in the administration of different remedials to the sick Therefore not every one arsenicized more than every one vaccinated, will be protected against disease more than is to be expected of otherwise positively indicated remedies prescribed, as they all are, according to our fallible diagnostic powers and prognosing hopes

These, then, are some of my reasons for promulgating what Gibier so aptly pronounces my "theoretically perfect" hypothesis, and the reason for my choice of a drug in preference to any animal virus Because I believe that through a drug alone, exhibited *into* the system and that system made responsive to its physiologic effect, and so kept while danger lasts, may we be protected, and finally emancipated from the ravages of epidemic or Asiatic cholera

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duction of vaccination, yet this process of protection counts some victims Compare the mortality from cholera and from Haffkine's inoculation and that from arsenic poisoning (in the hands of the physician when purposely prescribed), compare also the possible dangers incident to inoculation (even to those who survive the process) to the process of arsenization as I propose it, and of all these choose the lesser evil, if evil it be to try and avoid disease, compare the actual increased mortality from inoculation against that where it was not practiced at all and therein alone see the fallacy of a theory in relation to the practice of which we speak, and then remember that inoculation calls for a first case, with all its possible accompanying dyscrasiæ, its entire lack of effective antidotes and its frequent mortality While arsenization calls for the ingestion or other manner of acquiring a slight physiologic effect of arsenious acid (a drug in daily use the whole world over), and that in this process there need be no first case from which to obtain the virus, for this drug is known to all medical men, who know its effects and its antidotes, while few know cholera and its effects, and fewer know its antidotes

Let me, therefore, my dear Doctor, review your favor of the 3d inst, and remind you first that where you find the consensus of opinion to have been against good results from the use of drugs during the epidemic in Europe in 1892, that I believe you have only been able to hear from one side of the profession, and that side used much too large doses, thereby augmenting the diseased condition by adding drug disease, whereas by the judicious administration of much reduced doses you would have probably come out of that epidemic much more in favor of continuing the good old-fashioned drug medication I am also truly pleased to find one more who shall acknowledge, with you, that "adding to an already overburdened and disordered blood new and additional foreign and disturbing substances is the principle underlying allopathy, but it is not the correct principle involved in curing disease" I would respectfully cite you to one Professor Brunton (medical author, editor and examiner), who acknowledges a like empiricism in the allopathic practice, which is claimed to be the only scientific process of medicating our fellows, and as above stated I am pleased to add that I am one with you in encouraging absolute cleanliness in the cholera patient But do not forget that drugs will do much more than the majority of practitioners I now respectfully and forcefully present my allegations in detail and shall appreciate much your further consideration of this most interesting subject, especially as I can see that through your disinterested interest you further promulgate this hypothesis, which is thus far "incontrovertible except by test," and which has thus far stood firmly against all adversities

I conjure you, my dear Doctor, to write of this subject while you have the ear of the entire profession, as I am but yet little known, also do me the honor of an early answer and your candid opinion as to the theory as thus far propounded, and believe me, Yours very truly,

REG LEACH

THE PROPRIETARY SYSTEM AND ITS REMEDY

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, held at Baltimore Md, May 7-10, 1895

BY F E STEWART, M D, PH G
DETROIT, MICH

THE PROPRIETARY SYSTEM

For the purpose of promoting progress in science and the useful arts the Constitution of the United States gives Congress the power to grant to authors and inventors for limited times the exclusive use of their respective writings and discoveries Hence our copyright and patent laws

A patent is a contract between the government, representing the public at large, and the inventor The consideration moving from the government is the granting of the exclusive use of the invention for a limited time The consideration moving from the inventor is the invention of a new and useful article, and the giving to the public full knowledge of it by a proper application for a patent, so that, when the patent expires, the public may manufacture the invention The wisdom of such a law seems apparent, for by it inventors are stimulated to produce new and useful articles, capital is protected during the working and marketing of the invention until the investment becomes remunerative, knowledge is increased, and the archives of the Patent Office become a great public library and industrial exhibit, free to the use of the public, and commerce is promoted by valuable additions to the list of marketable commodities

A trade-mark is a "commercial signature" employed to distinguish one brand of an article from another brand of the same article on the market Its use does not confer on the user any exclusive right to the manufacture and sale of the article upon which the trade-mark is branded In law, the trade-mark has two uses One is to designate ownership, illustrated by the common method of branding horses and cattle so often seen on the ranches of the great West Another use is to designate the source of emanation or of manufacture For this reason the lumberman brands his logs with a trade-mark, or the manufacturer of pottery stamps his wares with peculiar marks or signs In the same way the manufacturers of silk, linen and other fabrics use the words "Lyon," "York Mills," etc, as trade-marks, to distinguish their various brands of goods from other brands of the same articles on the market But these uses of the trade mark do not vest in the users the right to the exclusive handling, or manufacture and sale of the articles upon which the trade-marks are branded The man who brands his cattle with a trade-mark does not acquire thereby a monopoly in cattle, neither does the use of trade-marks by potteries, silk manufacturers, makers of linen and other fabrics, vest in the users the right to exclude others from making and selling the same commodities

Another use of the trade-mark has sprung into being as a development of modern times—a use not contemplated by law The method to which I refer is the registering at the Patent Office of the only name by which an article is known, as a trade-mark on said article This use of the trade-mark has created what is known as the proprietary system This system should not be confounded with the patent system, as it is, in principle and practice, directly opposed to it, as a further consideration of the subject will show

The monopoly created by registering the only name by which an article is known as a trade mark upon such article is unconstitutional, illegal and unscientific These charges I now proceed to prove

The monopoly is unconstitutional because unlimited in nature *Congress has no power to grant perpetual monopolies* I grant that the right to use a trade-mark can not be limited by law But, as I said before, when one puts his commercial signature on his goods he acquires thereby no exclusive right to the manufacture and sale of articles so marked No monopoly whatever can result from the *proper use* of a trade-mark Only its misuse or abuse creates the so-called proprietary system

The monopoly is illegal, for there is no law in the statute books of the United States designed to protect the new use of the trade mark On the contrary, the courts have decided that when a new article of commerce is born it must be provided with a name, and that any one has a perfect right to manufacture and sell the article under the name by which it is known to the public provided the article is not patented[1] In case the article is patented no one has a right to make and sell it under that name or any other name until the patent expires Furthermore, the name, by use becomes descriptive A name is descriptive if commonly used by the public in designating the article when purchasing it[2] And it is an axiom of law that a descriptive name can not be a trade mark An absurdity that might occur by misusing a trade mark in this way illustrates the subject very well The trade-mark law permits the employment of the same trade mark as many times as there are classes of articles The word "Lyon," for example, can legally be used as a trade mark on logs, silk or tin-plate In the same manner the word "Lactopeptine" may be branded on a cow with just as much propriety as upon a medicine The very impossibility of such a thing occurring demonstrates most clearly the name lactopeptine is not a trade-mark when applied to the well-known article so-called, but its proper or descriptive appellation, the present manufacturer to the contrary notwithstanding

The monopoly is unscientific because it is protective of secrecy While in many instances the ingredients of proprietary medicines advertised to the medical profession are given, their true, or working formulas, whereby the public (pharmacist) may manufacture them are rarely published The disadvantage of this to pharmacy must be apparent to any thoughtful mind Pharmacy is the *science* of preparing medicine Therapy is the science of applying medicine to the cure of disease Materia medica is the name given to the collection of substances used as medicine These three were formerly classed under the general term pharmacology, or the science of drugs Pharmacy, then, is a branch of medical science, and should be represented in scientific medical literature alongside of therapeutics and materia medica, as a part of that science But the proprietary system stands directly in the way of it How can pharmacy have its place in medical science when the knowledge of it is locked up in trade secrecy? How can we have a scientific nomenclature to pharmacy when many of the new medicinal compounds are introduced under "proprietary" names which can have no place in science? The proprietary-system more than any one thing prevents pharmacy being recognized as a science, and its practice as a profession

Finally, the patent law was designed to promote progress in science and the useful arts by encouraging inventors to invent new and useful things, and to "publish full knowledge thereof whereby the public may manufacture the invention when the patent expires" The proprietary system, on the contrary, hinders progress in science and the useful arts by putting in its place a system of secrecy and perpetual monopoly Many physicians object to the open limited monopoly of the patent law as injurious to the welfare of sick humanity Are we to indorse the proprietary system which is far worse, both in principle and practice?

THE REMEDY

The main objections to the proprietary system are its secrecy, the unlimited duration of the monopoly, and the unscientific nature of its nomenclature The great thing in its favor is that it protects the investment of capital better than the patent law Very few manufacturers with whom I am acquainted would object to a reasonable time limit being set on the monopoly All manufacturers would agree to the adoption of a scientific nomenclature as far as I know But there are very few who would care to throw their processes open to unrestricted competition And it seems hardly fair to ask it Yet, unless some kind of compromise is adopted between what might be called equity and expediency, the objections I have named remain in force

Nothing can be done in this struggle with wealthy nostrum proprietors, unless the legitimate manufacturing interests will cooperate with the medical profession Therefore, the establishment of some basis of cooperation is essential to success Secrecy of composition is incompatible with scientific prescribing and should be prohibited, there is no special objection to allowing processes and methods of manipulation to come under the patent or copyright laws

Now, I have a compromise to suggest which, it seems to me, would overcome the difficulty In my trip across the continent with a large party of medical men for the purpose of attending the annual meeting of the AMERICAN MEDICAL ASSOCIATION held in San Francisco, I suggested the plan to various prominent physicians, who, in the main, agreed in regard to its desirability It is to *permit* an inventor of a new and useful medical compound to retain the name and secret of manufacture of his invention for a limited time, provided the true working formula thereof be placed in the hands of a national committee of physicians and pharmacists, and the article marketed only under the sanction of the committee In other words, let the system remain as it now is, only with the exceptions that a censorship shall be exercised over the market by a committee of competent physicians and pharmacists, the monopoly to be limited in time, and the system to be made scientific by providing it with a proper nomenclature and by the final publication of every invention whereby all pharmacists may manufacture the same when the patents expire

I use the term *permit* advisedly The present position of the trade is in every respect one of assumption, not permission Pharmacy can never rank as a profession until the proprietary system is abolished, or some compromise of the kind I have suggested be adopted Either point once gained then it is time for the medical journals to recognize pharmacy as a profession and invite the pharmacist to contribute the results of his researches to the medical journals Pharmacy now only appears in the advertising pages of the medical journals, which are torn up when the journals are bound Under such a system there is danger of the pharmacy of the nineteenth century becoming to a great extent a lost art for want of a literature There are pharmacists who are taking the position I have mentioned now, and they should be admitted as members of county medical societies as honorary members, or active, if they take the medical degree

Then let every manufacturing house open a scientific department manned by competent physicians and pharmacists, who can be held responsible to the profession for their utterances, and for the representations made by respective houses in labels, in circulars, in advertisements, and in the contributions of these houses to scientific literature It would be well if the members of these scientific departments were graduates in medicine as well as in pharmacy They could then join the American Medical Association, become members of the section on materia medica and pharmacy, and contribute to the scientific proceedings, thus promoting the interests of both pharmacy and therapeutics

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[1] Brown on Trade marks

[2] Ibid.

At the present time there are quite a number of medical journals pretending to be independent, but really organs of various manufacturing houses I can see no reason against, and much in favor of a manufacturing house issuing a journal as its organ, but I have nothing but condemnation for the pretender who sails under false colors as a purely scientific journal Such a journal as *Squibb's Ephemeris*, for example, issued above board as the organ of Squibb's manufacturing establishment, but filled with scientific articles, the work of investigators in his laboratory, or elsewhere, is a valuable addition to our list of journals

The question of the day at the recent meeting of the American Medical Association at San Francisco was, shall the Journal of the American Medical Association advertise proprietary medicines? I would have the Journal draw the line and admit only those whose true formulas are placed in the hands of a committee and under the restrictions I suggest However, it must be agreed that such indorsement must not be construed as a recommendation and used for advertising purposes And I would add another restriction, and that is, do not advertise any proprietary medicines which are advertised to the public in the newspapers

Now, as to the complexion of the committee, I would suggest that it consist of one member each of the American Medical and American Pharmaceutical Associations, and one member each from the medical departments of the Army, Navy and Marine-Hospital service, to which might be appropriately added as chairman, the Commissioner or Secretary of Public Health, if such an office is finally created by Congress

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DOES ALCOHOL EVER ACT AS FOOD, OR AS A GENERATOR OF ANY NATURAL FORCE IN THE LIVING BODY?

Read in the Section on State Medicine, at the Forty sixth Annual Meeting of the American Medical Association, held at Baltimore Md , May 7 10, 1895

BY N S DAVIS, M D
CHICAGO, ILL

Ever since Baron Liebig, of Germany, laid the foundations of organic chemistry by his two essays read before the British Medical Association—one on "Chemistry in its Application to Agriculture and Physiology" in 1840, and the other on "Animal Chemistry as Applied to Physiology and Pathology" in 1842, the assumption that the nitrogenous elements of food were appropriated to the growth and repair of the organized structures of the body and non-nitrogenous elements underwent oxidation or combustion, generating heat, has been accepted and incorporated into all our literature, both professional and non-professional Consequently, the non-nitrogenous proximate elements of our food have been and still are almost universally regarded as fuel for supposed combustion or *respiratory food*, and not as furnishing material for the growth and repair of organized tissues This arrangement of food elements into two classes by Liebig and his followers was founded on no experimental proof, but rested solely on the analogies of composition The starch, sugar, gum, cellulose, etc , being composed of the three primary elements, carbon, hydrogen and oxygen, and capable of uniting with additional oxygen outside of the living body constituting combustion, it was assumed that the same union with more oxygen took place in the living body and thereby evolved the heat characteristic of the animal

As all this class of proximate food elements was composed of carbon united with hydrogen and oxygen in proportion to form water they were called carbohydrates And as alcohol in its elemental composition was strictly analogous it was unhesitatingly placed at the head of the list of carbohydrates or heat producing foods I found so much difficulty in reconciling many facts connected with the diet of different individuals and communities with this theory that as early as 1850 I instituted a series of direct experiments for determining the actual influence of both the carbohydrates and nitrogenous elements of food on the processes of heat production and tissue repair The results of these experiments were embodied in a paper that I read before the American Medical Association at its annual meeting in Charleston, S C , 1851, and were such as convinced me that both carbonaceous and nitrogenous elements of our food furnished materials for tissue growth and repair, and that the animal heat was the result of molecular changes constantly taking place in the tissues, while the presence of alcohol neither promoted tissue repair nor heat evolution, but retarded both

Bocker, of Germany, had previously demonstrated experimentally that the presence of alcohol in the living body diminishes the sum total of eliminations and excretions and therefore retarded the molecular or metabolic changes in the tissues These results were verified by further experimental researches by Dr W A Hammond and several others, as set forth in his work on hygiene published in 1863 It is worthy of note that all these early investigators as well as those of more recent date, found that the alcohol, instead of undergoing digestive changes in the stomach like starch, sugar and other carbohydrates, was rapidly absorbed into the blood and with it permeated all the tissues and reappeared more or less in the excretions, while the products of combustion, *i e*, carbonic acid and heat, were both diminished It became evident, therefore, that it could not be longer regarded a respiratory or heat producing food But the fact that its presence uniformly retarded tissue metamorphosis and lessened the products of waste, having been well established, it was at once assumed that such retardation of tissue waste was equivalent to the same amount of actual nutrition, and therefore the alcohol must be regarded as *indirect food*

This view was adopted by Dr Hammond, who asserted that if the presence of a moderate amount of alcohol in the blood lessened the amount of waste products to the extent of four or six ounces in twenty-four hours, it rendered that much less food necessary, and hence he placed it with several other subtances, in a distinct class of *indirect foods* He was led by his own experiments to acknowledge that both the nitrogenous and non-nitrogenous or carbohydrate elements of our food were capable of entering more or less into the formation of tissue and both capable of heat production, a position still more fully sustained by Dr F W Pavy in his recent work on the "Physiology of the Carbohydrates"

The theory so plausibly advocated by Dr Hammond that alcohol by retarding the molecular or katabolic changes in living tissues, actually became indirect or accessory food, rapidly acquired wide popularity and caused both medical and magazine writers to designate it the "savings-bank" or the "conservator' of the tissues, and gave a marked impetus to its use in the treatment of all diseases characterized by predominance of waste over that of nutrition And though Dr Hammond and all the more reliable experimenters agree that the presence of alcohol diminishes the animal temperature, many others still assert that it is mainly oxidized or "burnt up in the system," and that it "is a conservator of tissue, a generator of vital force, and may therefore be considered as food" (See Essay on the "Physiological Actions of Alcohol," by Dr D Cerna)

Considering the very large amount of alcohol consumed by the people in the form of fermented and distilled liquors, the question whether it is capable of ever acting in the living body as food, either direct or indirect, or of generating vital force, is one of the greatest importance in its relations, both to the public health and to its therapeutic value as a medicine

That alcohol undergoes no digestive or molecular change in the stomach, but is rapidly absorbed and mixed with the blood, has been demonstrated so completely that it does not need further discussion That, while in the blood it does not furnish any material for either the growth or repair of any of the organized tissues, and consequently does not act as direct tissue food, is conceded with equal unanimity That it does not act as respiratory or heat producing food, by uniting with oxygen or being "burned up" in the blood or tissues is proved by 1, the fact that the temperature of the body diminishes in direct proportion to the quantity used until life ceases at a temperature from 5 to 10 degrees below the natural standard of health, 2, the fact that no investigator has been able to find any increase of the well known products of its oxidation, namely, either aldehyde, carbonic acid, or acetic acid, although diligently sought for, and 3, the fact that it displays a much stronger affinity or attraction for the hemoglobin, albumin and water of the blood and tissues than for oxygen at the temperature of the living body If it be thus conceded that the alcohol does not act in the living body as either direct tissue or respiratory food, does its known power to retard or lessen the ordinary katabolic processes, justify the inference tnat such retardation is in any physiologic sense equivalent to the same amount of nutrition, and that it is therefore an *indirect food?* In other words, is retarding katabolism or tissue disintegration, physiologically equivalent to the same amount of anabolism or tissue building? If it is, any person ought to be able to live well on notably less ordinary food by taking regularly a given quantity of alcohol, opium, tobacco, or any other agent capable of retarding the tissue waste, and yet be able to do the same amount of work, mental and physical But the abundant facts of human experience in every climate, in every relation of human life, and every kind of occupation, deny the truth of the supposition Again, if retardation of waste was in any proper sense equivalent to nutrition, an individual ought to be able to live much longer on nothing but diluted alcohol, as in fermented and distilled liquors, than he could on pure water alone But while we have quite a number of examples of men living on nothing but water forty or fifty days, I have never seen or learned of a well authenticated case of a man taking, or receiving into his system, nothing but diluted alcohol for half of that length of time, without becoming sick with either gastro duodenitis, nephritis or delirium tremens

It is not necessary, however, to appeal to the facts of human experience in determining the question before us A careful study of the conditions and processes necessary for both tissue building or nutrition, and tissue waste or disintegration in all the higher orders of animals, will show that neither process can be materially retarded without retarding or preventing the other Both processes take place only in bioplasm or vitalized matter supplied with oxygen, water and heat Neither the assimilation of new material, food, nor its use in tissue building can be effected without the presence of free oxygen and nuclein or corpuscular elements of the blood And without the presence of the same *elements* we can have no natural tissue disintegration and removal of the waste The processes of tissue building and tissue disintegration are, therefore, so intimately related and dependent upon the same materials and forces that neither can be either hastened or retarded from day to day without influencing the other When alcohol or any other substance, introduced into the blood, retards the tissue waste, as shown by the diminished amount of excretory products, it *must do* so by either diminishing the amount of free oxygen in the blood, by impairing the vasomotor and trophic nerve functions, or by direct impairment of the properties of the nuclein or protagon elements of the blood and tissues

The popular idea, both in and out of the profession, is, that the alcohol by *further oxidation* in the blood lessens the amount of oxygen to act on the tissues, and generates heat or "some kind of *force*" Those who advocate this theory of saving the tissues by combining the oxygen with alcohol, seem to forget that in doing so they are diverting and using up the only agent—oxygen—capable of combining with, and *promoting the elimination* of all natural waste products as well as the various toxic elements causing disease But the theory that alcohol directly combines with the oxygen of the blood by which it would be converted into carbonic acid and water with evolution of heat, is completely refuted by the well-known fact that its presence in the blood diminishes both *temperature and elimination* of carbonic acid as already stated Physiologists of the present day very generally agree, that the *capacity of the blood* to receive oxygen from the alveoli of the lungs, and convey it to the systemic capillaries and various tissues, depends chiefly on its hemoglobin, protein or albuminous and saline elements

Both experimental and clinical facts in abundance show that alcohol at all ordinary temperatures displays a much stronger affinity *for these elements* of the blood and tissues than it does for oxygen And when present in the blood, it rapidly attracts both water and hemoglobin from the corpuscular and albuminous elements of that fluid, and thereby diminishes its *reception and distribution of oxygen* We are thus enabled to see clearly how the alcohol diminishes the oxygenation and decarbonization of the blood and retards all metabolic changes both of nutrition and waste without itself undergoing oxidation with evolution of heat. Consequently, instead of acting as a shield or conservator of the tissues by simply combining with the oxygen, the alcohol directly impairs the properties and functions of the most highly vitalized elements of the blood itself, and thereby not only retards tissue waste but also retards the highest grades of nutrition and favors only sclerotic, fatty and molecular degenerations as we see everywhere resulting from its continued use.

Can an agent displaying such properties and effects be called *food*, either direct or indirect, without a total disregard for the proper meaning of words? And if not, can it act as a generator of vital or any other natural force in the living body?

The recognized physiologic forces belonging to the human body are, vital force, heat force, muscular force and nerve force. Vital force is that property of bioplasm or vitalized proteid matter, that is manifested in such molecular or metabolic changes as constitute nutrition, secretion and excretion, or growth and decay. Consequently the best test or measure of the *vital force* in any body, is the degree of activity of its metabolism, and yet it has already been shown that one of the most marked effects of the presence of alcohol, is the diminution of this same metabolism, and with it a loss of heat also. That it does not generate or increase muscular force or contractility, but the reverse in a marked degree has become so well known, that entire abstinence from its use has become an imperative rule in *all* intelligent training for exhibitions of the greatest muscular strength and endurance. Nerve force is manifested in two ways, namely, sensory, or acuteness of sensibility, and conducting or transmitting. That alcohol diminishes both these functions of nerve structure in direct proportion to the quantity present in the system, has been demonstrated by its use as an anesthetic, and by the application of instruments for the actual measurement of the acuteness of sensibility and the rate of transmission, under the influence of doses varying from 4 c. c. to 100 c. c. From the foregoing review it will be seen that alcohol when present in the system positively diminishes vital force as measured by molecular or metabolic activity, reduces temperature, lessens muscular force, and impairs nerve force both transmitting and sensory, in direct proportion to the quantity used. And yet, simply because a large part of the alcohol taken has not been actually reproduced in the excretions and eliminations, a large proportion of writers continue to assert that it "must, therefore, be oxidized in the body, thus serving the purpose of a food and in this manner generating *force*."

The same writers when asked what kind of *force* is generated, quote Dupré as having "shown that 1 gram of alcohol oxidized in the organism yields 7,184 heat units, while the same weight of lean beef evolves only 1,482 heat units." And therefore "two ounces of alcohol generate *a force equal to that generated by* a little over nine ounces of lean beef," thereby leaving us to infer that heat is the force generated. And still the stubborn facts of both experiments and daily observations, show that nine ounces of beef a day maintains a man's temperature and other forces quite well, while on two ounces of alcohol per day his temperature diminishes together with every other known physiologic force manifested in the living body. And if it continues to be used daily for a number of years, instead of "conserving," it results in molecular degeneration in almost every tissue of the body, as seen in all cases of chronic alcoholism.

But why so persistently assume that the alcohol *must* be oxidized in the system, when it is fully demonstrated that it displays a much greater affinity for the water, albumin, hemoglobin, and nuclein of the blood and tissues than it does for the oxygen? Is it not quite possible that it is held in molecular or atomic combination with the protein elements named? And is not such a supposition much more in harmony with all the facts belonging to the subject?

Certain it is, that in its origin and its effects on the functions and structures of the living body, it is wholly unlike every other substance recognized as food. Instead of being a natural product of either vegetable or animal growth, alcohol is the well-known active toxic product of bacteriologic culture, neither digestible nor capable of assimilation, but pervading readily all parts of the system, and producing effects closely analogous to those produced by ether and chloroform, and usable for the same purposes. Then why longer delude the public and aid in deteriorating the public health, by calling it either a food or a generator of some kind of imaginary force?

PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI.)

BY BYRON ROBINSON

PROFESSOR OF GYNECOLOGY POST GRADUATE SCHOOL
CHICAGO

(*Continued from page 418.*)

The lesser bag extends in young subjects from the cardiac end of the stomach to the pelvis and from the transverse fissure of the liver to the spleen. Beside this wide extension of the sac does not long remain. The cavity begins to loose its completeness at the lateral circumference during childhood. Coalescence encroaches upon its borders. Adhesions of its closely applied walls begin early on the lateral edges. This coalescence appears to me to be the result of local peritonitis. However, coalescence occurs in distinct localities of the lesser sac, so far as my examinations are concerned. These definite localities are (*a*), the pars omenti colica, (*b*), the ligamentum phrenico-colicum, (*c*), the omentum colicum Halleri, (*d*), on the posterior surface of the ligamentum gastro-lienalis. So far as regards the pars omentum colicum, every anatomist knows that it coalesces. Its two double bladed layers become adherent in early adult life. No explanation of this cohesion has attained general recognition. It appears to me that the coalescence is due to peritonitis and the only reasonable explanation which I can offer is that as the folds of the omentum lie on the bowel, microbes or their products pass through and induce *peritonitis in the pars colica omenti*, *I mean* that portion of the omentum below the transverse colon, in other words I mean the colic part of the omentum. The blades of the pars colica can be definitely separated in children and sometimes in adolescence, but as a rule the blades coalesce early and in places almost completely. I have found in autopsies that patches of the pars colica omenti would be adherent to the bowel surface due to local peritonitis, and there was no doubt that the infection had passed from the bowel lumen through its walls Others may argue that the colica part of the omentum coalesces from absorption of the endothelial layers and consequent adhesions, the absorption being due to lack of nourishment His's followers would say the serous endothelium being not genuine, acts just like connective tissue cells and coalesces when and where it chooses, but they do not tell us why the coalescence rules so frequently in the pars colica omenti and not other places Another explanation I offer myself, but not so reasonable as the first is, that the double blades of the pars colica omenti lie on a movable digestive tube and it might induce enough friction by peristalsis to cause a (plastic) peritonitis The region of the ligamentum phrenico colicum and gastro lienale may be taken together and constitute the chief coalescence found so frequently at the left end of the lesser omental sac I have found some coalescence at the left end of the lesser omental bag in nearly every adult body , The spleen is the organ around which the adhesions chiefly occur Infection and constant motion must induce the peritonitis The dilatation and contraction of the stomach (movement), the proximity to the flexura coli lienalis where infection is apt to arise from sharp foreign bodies abrading the mucosa as they pass around the acute bowel flexure, and the disturbances of the spleen, may account for so much and so frequent coalescence found in the left end of the lesser omental sac The coalescence takes on peculiar forms in the left end of this peritoneal diverticle One can find simple adhesions, cicatricial bands and depressions or narrow-necked sacs constricted off The chief place for constricted off sacs are in the ligamentum phrenico-colicum Some of the sacs may be completely closed Multiple adhesions occur immediately to the left of the septum bursa omentalis Adhesions of various kinds, cicatrices, peritoneal depressions, sacculations and completely closed off spaces may be found at the right end of the lesser omental cavity along the flexuri coli hepatis or Haller's omentum Hence, these coalescences which occur, as a rule, in the above named localities of the lesser omental sac limited its size in the adult They allow considerable encroachments on the border surfaces, lessening materially the circumference of the sac The coalescence occurs at the lateral edges or places where friction or infection are liable to arise As regards the neck of the sac, orificum epiploicum, I have found it closed in two of the many subjects examined It nearly always admitted one or two fingers and hence varied in size, but I can not, so far, report definite adhesions distinctly around the *mouth of* Winslow's foramen, except in two cases which were closed Of course the gall bladder region is a great peritonitic region, but its inflammation belonged to the gall bladder or the flexura colica hepatis and occasionally to the pylorus and not to the hiatus Winslowii In several cases adjacent inflammation made it appear that the foramen was closed, but careful investigation showed that it was not, but free from cicatricial tissue

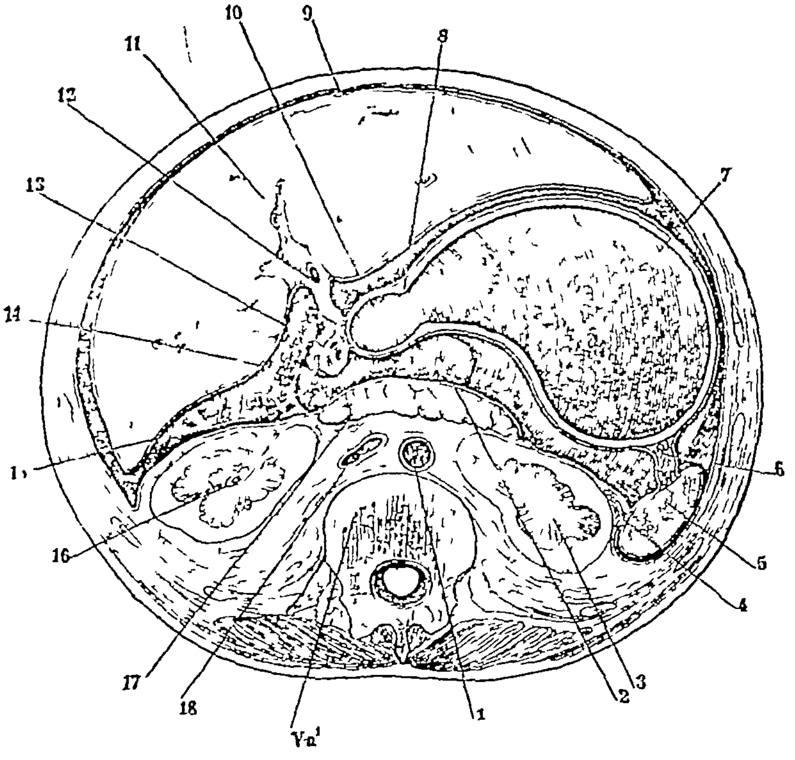

Fig 48 (After Henle 1873) represents a horizontal section of a new bone through the under border of the 1st lumbar vertebra, Va 1 to show the disposition of the peritoneum and viscera The section passes through *Winslow s foramen* and the bursa omentalis The upper surface 1 aorta 2 posterior liver lobe 3, left kidney 4 ligamentum phrenico lienale or better vena splenic ligament I have found it well marked in many bodies 5, spleen 6 ligamentum gastro lienale 7 pylorus 9 ligamentum suspensorium hepatis 10 beginning of duodenum with its transverse portion 11, cut surface of the liver *whose overhanging* border fell under the gall bladder 12 cystic duct, 13, cystic duct again appearing in right border of gastro hepatic omentum together with the portal vein and hepatic artery 14 orificium epiploicum 15 sharp border of the ligamentum hepatico-venale Observe that the real entrance to Winslow s foramen is bounded by the gastro-hepatic ligament and the hepatico venal ligament 16 right kidney 17, pancreas 18, vena cava. This excellent diagram shows well the disposition of the peritoneum and the relations of viscera

In the adult omentum or mesogaster there are three segments that may call for a few remarks There is

1 The mesogaster which belongs to the stomach more strictly It arises in the mid-dorsal line and passes to the greater curvature But in the adult this purely stomach segment of the mesogaster is somewhat changed on account of the left blade of the mesogaster being displaced toward the left and the right blade following and becoming fixed against the posterior dorsal wall, that is, the mesogaster forms a part of the parietal peritoneum of the dorsal wall from displacement toward the left The stomach mesogaster also forms part of the lesser omental cavity It contains also between its blades, the body and tail of the pancreas In an adult dog one can note the mesogaster exactly in the mid-dorsal line It has never shifted its blades to the left and become part of parietal peritoneum of the dorsal wall by displacement or coalescence This condition of part of the mesogaster becoming part of the dorsal parietal peritoneum in man is no doubt due to the liver pushing the stomach to the left, and forcing the stomach so strongly against the mesogaster that it displaces it (or possibly coalesces it)

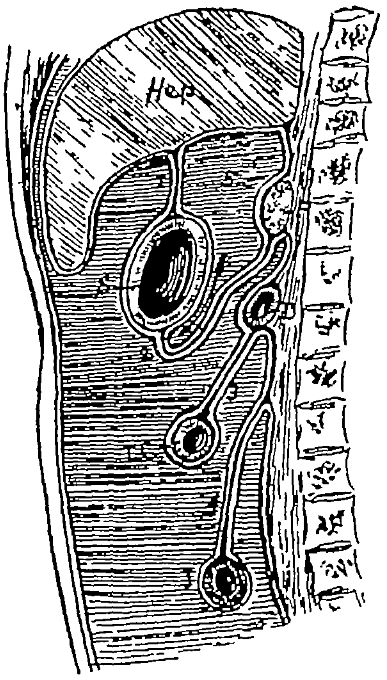

Fig 44 (modified from Testu) illustrates the formation of the great omentum and its relations to the transverse colon Hep liver, s, stomach, 1 gastro hepatic omentum, 5, bursa omentalis, P, pancreas 2, gastro colic omentum of the future in which is directed an arrow, D, duodenum, 3, mesocolon, T c transverse colon 4, mesenterium, I, small intestine The author does not indicate that the lower or anterior blade of the mesogaster and the upper (anterior) blade of the mesocolon is drawn out but this figure suggests that these two layers coalesce

2 The next segment of the mesogaster, which is altered in the adult, but is a distinct portion of it is the mesoduodenum In the adult the mesoduodenum appears to be absent, but it is an error to consider it absent My dissections show the mesoduodenum present In its mesentry, one can find the head of the pancreas, the lymphatics and nerves and blood vessels all arranged just as in the mesentery of the small intestines The blood vessels show arcs and arcades, but the mesoduodenum in the adult consists of only the membrana mesenterii propria minus the two shining serous endothelial layers which cover other mesenteries But the membrana mesenterii propria is a true mesentery though it lacks the shining endothelial layers The mesoduodenum reaches from the pylorus to the flexura duodeno-jejunalis It must be remembered that every portion of the bowel must possess the membrana mesenterii propria because it is the neuro-vascular visceral pedicle on which its life depends The open spiral ring, molded to fit the vertebral column, known as the duodenum, is no exception to the unalterable rule of possessing a membrana mesenterii propria though it does not possess the not absolutely necessary endothelial layer

3 The third segment of the mesogaster is the anterior layer of the great omentum, *i e*, the pars omenti colicum or the pendulous portion of the blades below the colon This part becomes the omentum colicum Halleri and ligamentum hepatocolicum on the right side On the left side it merges into the ligamentum phrenico-colicum In the middle it forms close relations with the transverse colon The relations of the left end of the great omentum with the ligamentum phrenico-colicum and flexura coli lienalis I have gone over in the relation of the spleen to the peritoneum, as well as its right relations to the ligamentum hepato duodenale et hepatocolicum and omentum colicum Halleri

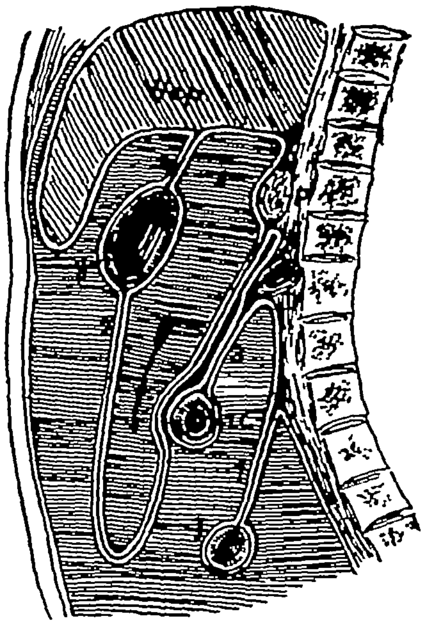

Fig 45 (after Testu, 1892, modified) represents the relations of the mesogaster and mesocolon transversum just before coalescence The figure suggests coalescence of the superior blade of the transverse meso colon and the anterior (lower) blade of the mesogaster The displacement theory is not entertained in the sketch, Hep liver, 1, gastro hepatic omentum, 5, bursa omentalis, S, stomach P, pancreas D, duodenum, 3 mesocolon transversum T C, colon transversum 4, mesenterium , I, small intestine The arrow shows the mesogaster elongated The anterior blade of the mesogaster and the superior blade of the mesocolon would need to coalesce according to the figure According to the displacement or readjustment theory they would be drawn out

(To be continued)

SOCIETY PROCEEDINGS.

Mississippi Valley Medical Association

Abstract of the Proceedings of the Twenty-first Annual Meeting, held in Detroit, Sept 3, 4, 5 and 6, 1895

The Association convened in the Strassburg Academy, and was called to order by DR H O WALKER, of Detroit, Chairman of the Committee of Arrangements

Prayer was offered by the REV MARCUS A BROWNSON, of Detroit

DR WALKER then introduced MAYOR PINGREE, who paid an eloquent tribute to the medical profession, and extended a cordial greeting to the Association

The ADDRESS OF WELCOME on behalf of Detroit physicians was made by DR J HENRY CARSTENS, of Detroit

DR WALKER presented the President of the Association, DR WM N WISHARD, of Indianapolis, who delivered the

PRESIDENT'S ADDRESS

He said the importance and advancement of Detroit were represented by the standing and intelligence of the local physicians He referred to the beginning of the four years course in medical colleges, and said that the fear that the new rule would operate to the disadvantage of the smaller schools was unfounded The President urged the advisability of publishing the records, papers and discussions in some manner to make them accessible to all members He recommended a permanent executive committee, and regretted that the large number of papers necessitated the holding of two meetings at the same time He commended the preparations for the convention, and pledged his earnest efforts to the promotion of the profit and pleasure of the convention

The reports of the Secretary and Treasurer were read and accepted

The reading of papers was proceeded with, the first one being read by Dr Thomas Hunt Stucky, of Louisville, entitled

THE GOLD COMBINATIONS AS ALTERATIVES

At a meeting of the Medico-Chirurgical Society of Louisville, April 5, 1894, the author had the pleasure of exhibiting a series of cases who had been taking the preparations of gold and arsenic, known to the profession as *arsenauro* and *mercauro* He was under the impression at that time that the good effect claimed was produced in three ways 1, by stimulation of the secreting glands of the stomach, 2, by the probable alterative effect upon these secretions, and 3, that probably there was a local antiseptic influence exerted The class of patients in which he had used the preparations were people afflicted mostly with consumption, Bright's disease in its various stages, chronic hepatic troubles, and convalescents He made it a rule with all these cases to withdraw all medicines except the combinations of gold and arsenic He had selected from a series of cases four or five, which he detailed

Case 1—Patient, a male, 60 years of age, with tuberculosis History good. Eight drops of the mercuric bromid of gold and arsenic were given hypodermically every four hours, this treatment being continued for two months No deleterious results were noticed On the contrary, he is decidedly better, physical condition, color, appetite and bodily strength improved

He reported a few cases out of a large number to demonstrate, in his judgment conclusively, that by the combinations of gold and arsenic we have an agent acting as neither of the minerals do when administered separately, or in other words, we have an entirely new agent in so far as therapeutic action is concerned

The author then dwelt at considerable length upon the chemic differences between the chlorid of gold and sodium, and the bromid of gold and arsenic (arsenauro) with reference to their therapeutic action and subsequent elimination He believes that in the action of the combination of bromid of gold and arsenic, it is entirely different from any therapeutic agent known As compared with mercauro, iodin or the combination of iodids, the action of gold in the combinations named is greater and intensified, that these combinations enter into the circulation as gold and arsenic, and spend their force and exert their influence in an alterative way upon the glandular system, that a marked alterative effect is exerted upon all scleroses (non-malignant), that it is not only a blood maker, but a blood-builder, that it not only increases the quantity, but the quality of the corpuscles that under its use hemoglobin is markedly increased, that it is eliminated by the kidneys, that they produce no irritation either when given *per orum* or *hypodermically*

Cases corroborating the beneficial and curative effects of the preparations mentioned by the essayist were reported by Drs A. P Buchman, I N Love, and Wm F Barclay

The following paper was read by Dr Wm. F Barclay, of Pittsburg

LEGITIMATE PHARMACY

He defined legitimate pharmacy as that which meets the necessities and demands of the regular medical profession and the people The medical profession is entirely separate and distinct from pharmacy Medicines are divided into four classes, patented, proprietary, non-proprietary and secret There are a large number of cures, mixtures and tonics bearing the name of their originators and deserving of consideration as proprietary preparations Pharmacists and physicians are interdependent and should work together Legitimate pharmacy has called into service educated and able men, but the incompetent and dishonest have got in, too, and can not be too severely condemned Pharmacists make errors, but physicians are careless, too, in writing prescriptions Physicians should not favor any particular pharmacist and should *not receive pay from them* *On the other* hand, it is unworthy and unprofessional for pharmacists to prescribe drugs or medicines Legitimate pharmacy should protect the people from the nostrum makers Physicians have a right to require the highest skill and competency upon the part of the pharmacist, both for their own interest and the good of their patients

Dr F E Stewart, of Detroit, read a paper on

COD LIVER OIL

He considered the powerful stimulant action of cod-liver oil on nutrition, also demonstrating with specimens the difference in the color of oil digested from fresh livers and that prepared from putrid livers, the former being pale, golden or light brown, according to the number of hours digested, and the latter dark brown The darker oils contain more extractive matter Dr Stewart said the text-books contained many errors regarding the preparation of cod-liver oil

DISCUSSION

Dr I N Love, in the discussion, conceded the merits of the paper, but expressed himself as rather skeptical as to the value of cod-liver oil He declared that there was danger of our getting too professional, and said that that which brings relief to the patient is to be commended He favored proprietary remedies which have come to the profession through pharmaceutic channels

GYNECOLOGY AND ABDOMINAL SURGERY

Dr Tod D Gilliam, of Columbus, Ohio, read a paper entitled

UTERINE FIBROIDS—WHEN TO OPERATE

The medical and electrical treatment of uterine fibroids is to-day in a very unsettled state While it can not be denied that amelioration or even recovery has followed such lines of treatment, there has not been that degree of uniformity in results calculated to inspire confidence To the author's mind, there is no better field for a competent observer, than the study of the natural history of uterine fibroids It will enable us to determine the true value of so-called curative agencies It will insure a more certain prognosis It will give the proper cue to surgical interference If, out of 100 cases, 90 suffering women can be restored to lives of usefulness and happiness, would it not be better to give them a chance? No surgeon is justified in doing hysterectomy or the more serious operations for uterine fibroids when the patient has not experienced sufficient trouble to make it a menace to her life

Dr L H Dunning, of Indianapolis, Ind, read this paper

TUBERCULAR PERITONITIS

In the domain of surgery there is no more attractive study than tubercular peritonitis The mode of invasion, forms of the disease, diagnosis and treatment were considered in the paper, and finally a brief history of five cases was given

Tubercular peritonitis, with effusion, is now universally considered a surgical disease Even in the acute suppurative cases, abdominal section yields a sufficient number of successes to render its employment imperative Senn excludes all forms of the disease from surgical treatment except the exudative form Manclaire gives as the chief contra-indications to surgical treatment, the generalization of the lesion, and the existence of profound systemic infection Linder analyzes the results in 205 operations, with a mortality of 75 per cent The deaths resulting in most of these cases were from collapse In cases of involvement of the tubes and ovaries, they should be extirpated His experience, in two cases leads him to the belief that we should, if possible, avoid using silk ligatures in tying the pedicle when it is necessary to remove the uterine appendages

Case 1—Mrs A. B, aged 56 years, consulted the author concerning the extirpation of a fibroid tumor of the uterus She had passed the menopause five years previously, but the tumor had gradually increased in size At the time of examination, it had reached the umbilicus There was a small amount of fluid in the abdomen, and on opening it probably a quart of clear straw colored fluid ran out The peritoneum and intestines were studded with innumerable small grayish deposits of the size of a millet seed Similar deposits thickly studded the serous covering of the tumor The intestines were agglutinated, but were not adherent to the tumor After removal of the tumor by supravaginal hysterectomy, and ventrofixation of the stump, the abdominal cavity was irrigated, and then leaving the drainage tube just behind the stump, the abdominal incision was closed Recovery

In *Case 2*, a diagnosis of ovarian tumor had been made and examination revealed an accumulation of fluid in the abdomen which was encysted The uterus was fixed and an immovable mass was outlined in the pelvis upon the right side, which the author believed to be a small ovarian tumor surrounded by inflammatory exudates An exploratory incision was made, and three gallons of dark fluid evacuated from the abdominal cavity A small tumor was felt in the pelvic cavity The incision was enlarged, the tumor enucleated, and the pedicle tied off, together with the Fallopian tube The left tube and ovary were likewise extirpated On exposing the abdominal and pelvic cavities to view, it was seen that the viscera were thickly studded with small grayish deposits Microscopic examination demonstrated the presence of tubercle bacilli Patient now, eleven months after operation, in good health Two of the five cases reported by the author terminated fatally

DISCUSSION

Dr Gilliam, of Ohio, believes that where we have tuberculosis of the ovaries and tubes, it is better to remove the uterus, too

Dr J Frank, of Chicago, asked whether any of the members, who had operated for tuberculosis of the peritoneum, had noticed a recurrence, or how long the patient was immuned from further attack

Dr Humiston, of Cleveland, Ohio, reported two cases, upon which he had operated successfully

Dr R S Sutton, of Pittsburg, had seen a good many cases of tubercular peritonitis, upon several of which he had operated successfully Until within a year he had been in the habit of washing out the cavity with hot water, but now he pays no attention to it, but simply opens the abdomen and cleans out everything He is convinced that while hot water does no harm, it does no good in that it has no influence upon the disease He believes in removing as far as possible, all diseased organs

Dr Henry O Marcy, of Boston, operated in 1887 for the first time on a case of tubercular peritonitis, the patient making an easy recovery He had operated several times since then for this disease with excellent results

Dr A H Cordier, of Kansas City, Mo, called attention to the fact that Mr Wells, as early as 1862, operated for tubercular peritonitis, simply incising the abdomen and draining, thus curing his cases He thinks that drainage is the principal thing that brings about a cure of this disease, but how, is not definitely settled He said the theory had been advanced by Dr Morris, of New York, that it is due to the admission of saprophytes into the peritoneal cavity

Dr Bayard Holmes, of Chicago, related an interesting case of adhesive peritonitis cured by operation

The paper was further discussed by Dr W S Caldwell, of Freeport, Ill, Dr Entriken, of Findlay, Ohio, and Dr B M Ricketts, of Cincinnati, Ohio

Dr Dunning, in closing, said that Linder's observations were the most complete of any, and he found very little tendency to recurrence of the disease where it was primary and of the adhesive form, but where the disease was secondary and of the adhesive form, there was a strong tendency to recurrence His own experience had not been sufficiently extensive to furnish reliable data in this regard

Dr Bayard Holmes, of Chicago, was the author of this contribution

HYSTERECTOMY FOR PUERPERAL SEPSIS—WHEN SHALL IT BE PERFORMED? WITH A REPORT OF FOUR CASES

The paper was divided into five parts 1, a report of four cases of puerperal sepsis, treated by four different methods, 2, the pathology of puerperal sepsis in various stages, 3, curettement in the hands of its advocates, 4, puerperal sepsis as a cause of death in Chicago, New York, Brooklyn, and in the Charity Hospital at Berlin, with an abstract of 79 deaths from puerperal sepsis in 6,635 cases

The first case was a multipara, 26 years of age, of Irish extraction, having a history of tuberculosis of the lungs, confined under unfavorable circumstances, with retained placenta, post-partum hemorrhage, delivered without an anesthetic with the hand of a physician, arrest of a hemorrhage, gradual sepsis, failure of curettement, and death seven weeks after confinement

The second case was a woman 30 years of age, normal confinement, with sepsis appearing upon the fourth day, of mild character, gradually increasing until six weeks after delivery Temperature was high, pulse rapid, and symptoms of peritonitis with obstruction of the bowels Laparotomy Removal of the right broad ligament, tube and ovary, drainage through the vagina, death after eight days without peritonitis, from phlebitis and pulmonary embolism

The third case was in a multipara with gonorrheal history, an abortion followed by pelvic inflammation, peritonitis and obstruction three weeks after delivery Removal of both tubes and abdominal drainage, death after ten days without peritonitis through phlebitis and pulmonary embolism

The fourth case was a multipara, 32 years of age, delivered by a midwife, with a bad history of puerperal infection, rapid onset of a mild infection, no curettement Obstruction of the bowels, vomiting six weeks after delivery, with evidences of peritoneal effusion Laparotomy, removal of the uterus and its adnexa, abdominal drainage and recovery This uterus and these appendages were carefully examined microscopically There was evidence of necrotic endometritis, suppurative endometritis, suppurative metritis, suppurative lymphangitis in both tubes with abscess of the ovarian ligament upon the right side and adjacent peritonitis The blood vessels throughout the broad ligaments were found indicating a progressive infective thrombosis The uterine tissue was filled with pus cells occupying the perivascular and lymph spaces with occasional obliteration, of large blood vessels A great number of mastzellen were found throughout the infected tissues The author held that the progress of puerperal infection was in this case through infective thrombosis and suppurative lymphangitis, and that the removal of both tubes and drainage would have been ineffectual He then proceeded to recount the pathologic findings in cases of non-infected puerperal women dying from accidental causes during the first, third and sixth weeks after labor, and also cases dying at somewhat similar times after labor, stating the comparison of the normal and the abnormal uterine and peri-uterine tissues

Fourth division In the city of Chicago, during the years 1881 to 1894 inclusive, there were 2,127 deaths from puerperal fever In New York during six years ending May 31, 1880, there were 250 000 deaths of whom one sixth were females, and 2,236 of these deaths were due to the pregnant state Of these, 1,250 were due to puerperal infection In Brooklyn, with 112,000 deaths during the same period, 53,000 were females, and of these 867 died of the puerperal state, 462 dying of puerperal sepsis These figures show the importance of the subject

The question of treating puerperal infection by evidement or curetting was discussed by presenting the work of its own advocates, showing that out of 7,600 cases of labor in the hands of one of the advocates of curettement, 101 were treated by repeated curettement and irrigation Of these ninety six recovered and five died

An abstract of the history of these five cases was presented, showing that there was every reson to believe that after curettement had failed hysterectomy would have proved efficient in saving the patients

A series of 6,635 cases of confinement occurring in the Charity Hospital in Berlin, under the care of Hensoldt, Schwarze, Huenermann and Hochselter during four successive years were then analyzed Seventy-nine deaths from all cases occurred Of these deaths, thirty three resulted from puerperal sepsis, and in order to fully understand the possibility of these cases, a short epitome of the history of each was presented, showing that only 3 out of 633 cases were of such character as to give rise to the suspicion that they might not have been saved by an hysterectomy

The author gave the following conclusions 1, puerperal sepsis has its origin in the endometrium, and usually travels by the lymph channels or by the thrombosed blood vessels and the lymph channels together, 2, it still causes almost one-half of the deaths which occur in the puerperal state, 3, curetting is ineffectual in many cases of puerperal sepsis, 4, the removal of an infected broad ligament and the drainage of a pelvic abscess or peritonitis is often ineffectual, 5, hysterectomy should be performed, therefore, in such cases of puerperal infection as do not yield to uterine curetting and irrigation, 6, hysterectomy should be done whenever peritonitis is present in the course of puerperal fever, 7, hysterectomy should be performed in cases of puerperal mania where there is a history of endometritis without uremia, 8, hysterectomy may not be helpful in the course of diphtheritic vaginitis and endometritis, 9, hysterectomy may not be helpful in cases of rapid early infection, 10, it may not be useful in cases of septic phlebitis reaching outside of the pelvis

Dr Wm H Humiston read a paper entitled

A METHOD OF PREVENTING THIRST FOLLOWING CELIOTOMY

He said No one who has had any experience in the after-care of abdominal cases will deny the important place that thirst occupies It is the one prominent, annoying and distressing symptom, and I know it can be overcome This is my method of procedure

The patient should have the usual preparation for celiotomy, i e, diet, daily baths cathartics, etc For three days prior to operation, order the patient to drink one pint of hot water an hour before each meal and on retiring, thus drinking two quarts of water each twenty four hours the last pint to be taken three hours before the time set for operating Do not omit to give the water the day previous to the operation while the patient is restricted to a limited amount of liquid nourishment and the bowels are being unloaded We thus restore to the system the large loss of fluid occasioned by the free catharsis, and we have the great satisfaction of seeing our patient pass through the trying ordeal of the first thirty-six hours after the operation in comparative comfort, with no thirst, a moist tongue, and an active renal function, represented by an excretion of from twenty eight to fifty fluid ounces of urine during the first twenty four hours, catheterization being seldom necessary This is in keeping with the full character of the pulse noted

The above details I have recently carried out in twelve cases To eleven, chloroform was administered, to one, ether The time required to complete the operation varied from ten to fifty-five minutes Whether the case was one of sclerotic ovaries or a pus case with universal adhesions of all the pelvic structures, the result has been uniform and highly satisfactory, thirst being allayed and excretion stimulated

I believe this method will prove to be efficient in the hands of abdominal surgeons generally, and I publish it early, with all confidence that the twelve cases that I have had will soon be fortified by the reports of many hundreds, and that by it we may avoid a condition that is and has been distressing alike to the patient surgeon and nurse

Dr Miles F Porter, of Fort Wayne, Ind, read this paper

CELIOTOMY IN GENERAL SUPPURATIVE PERITONITIS, WITH THE REPORT OF A CASE

The author first quoted Prandin, who says regarding general puerperal peritonitis "The women die, no matter what the form of treatment employed" Dr Baldy says "To my knowledge, there has never been reported an undoubted case of general purulent peritonitis from any cause whatever, in which an abdominal section or any other line of treatment has succeeded in saving the patient's life" That the mortality of general septic peritonitis is large all will agree, but that it is always fatal is certainly not true Dr Porter then reported the case, and closed by saying that the object in writing the paper was to assist in arousing a sentiment against the too prevalent idea that in general septic peritonitis death is inevitable, and to encourage in these cases prompt operative interference

Dr A. H Cordier, of Kansas City, Mo, presented the subject of

PERITONEAL IRRIGATION AND DRAINAGE

In which he said that the latest works on abdominal and pelvic surgery contain, like the older text-books, very short and misleading articles on the indications for peritoneal irrigation and drainage, and still less explicit are the directions how to use these agents for good, intelligently and correctly This diversity of opinion among authors leaves the inexperienced beginner in a position of perplexity and doubt as to the special course he is to pursue in his early work The same principles hold good in draining the peritoneal cavity that are applicable to other parts of the body No surgeon, with all the antiseptic precautions possible to be used in opening a diffuse abscess of the thigh or other part of the body, would think of such a thing as at once closing a wound hermetically, leaving many broken-down shreds of diseased tissue dangling in the abscess cavity He might have irrigated the cavity thoroughly with a 1 to 1,000 solution, yet he would not feel it safe to close the wound until after he had made counter openings and introduced a drainage tube, this being as near ideal surgery as it is possible to obtain in these cases Freshly boiled distilled or filtered water, cooled to 102 or 110 degrees F, should be used in irrigating

The author drew the following deductions 1, drainage is a life saving process when properly used, 2, to use it is not an admission on the part of the surgeon that his work during the operation is imperfect, 3, the use of the tube alone does not produce or leave any condition that favors the development of hernia, 4 the omentum, or other structures, do not become entangled in the openings in the tube, 5, a small sized flint glass tube, with small openings and open end, should always be selected for pelvic drainage, 6, the tube does not produce fecal fistulæ, 7, the tube should be used when in doubt as to the absence or presence of drainage indications, 8, to depend upon microscopic findings as to whether a given case should or should not be drained is seemingly scientific, but is neither necessary nor practicable, 9, gauze drains should rarely be used, and should always be supplemented by a glass drain, 10, there is no danger of infecting the patient through a tube if the attendant is properly instructed

Dr J Henry Carstens, of Detroit, followed with a paper entitled

THREE CASES OF HYSTERECTOMY FOLLOWING CELIOTOMY FOR PUS TUBES

The author summarized his remarks as follows

"1 It seems to me in the light of my present experience in cases of bilateral pus tubes that a more perfect and complete operation can be performed by abdominal section, with less danger of injury to the bladder and intestines, and with smaller mortality and better ultimate results

"2 That in certain cases a better immediate result is obtained by vaginal hysterectomy and drainage, but these cases frequently require a second operation to remove the ovarian tissue and parts of the tube, which at first in many cases can not be removed, before a perfect ultimate cure is established

"3 Where the sympathetic and other nerves are affected, the cause is not in the uterus, ovaries or tubes alone, but part in each We are unable to state which organ is at the bottom of the trouble Sometimes it may be only one, sometimes the other sometimes two or all three, hence, in such cases I would say

"4 In many cases with marked nervous symptoms, the best results are obtained only after the complete removal of every particle of the generative organs—that is, uterus, tubes and ovaries—be this accomplished at one two or three operations, per vagina or by abdominal section"

DISCUSSION

Dr R S Sutton, of Pittsburg, favored abdominal section for pus tubes He maintained first and foremost that a uterus deprived of its appendages is of no use Second, that it is an organ, if left, which is liable to tuberculosis, gonorrhea, syphilis, discharges, adhesions, etc When it is decided *to remove the appendages*, the uterus also should be taken out

Dr Gilliam, of Columbus, Ohio, argued against the removal of the uterus with the appendages in order to save life, the objection being that shortening of the vagina resulted

Dr B M Ricketts, of Cincinnati, believes total extirpation will be relegated The dangers are cystocele, hernia, increased danger of prolonging the operation, and shortening of the vagina

Dr Henry O Marcy, of Boston, favored retaining the cervix when it is healthy, and pointed out the reasons why it should not be removed It helped materially in acting as a support to the vault of the vagina

Dr Holmes of Chicago, in discussing Dr Cordier's paper, said that drainage was a sort of vicarious redemption for poor surgery Whenever it is impossible to make a wound clean we must drain, and sometimes we drain when the wound is clean, but we are unable to arrest the hemorrhage He could conceive of no other indication for drainage, whether in the abdomen, the brain, or any other part of the body, than failure to meet one great indication of wound treatment—to keep the wound clean

Dr George W Cale, of St Louis, read a paper entitled

TWO SUCCESSFUL OPERATIONS FOR TRAUMATIC INSANITY

The author said that insanity due to injuries of the head is of rather infrequent occurrence In 2,200 cases of insanity, treated by Kiernan, 45 were of traumatic origin, while Hays records 61 due to the same causes out of 2,500 cases Schlager reports 500 cases of insanity due to concussion of the brain The author then considered the causes and symptoms

Case 1 was a male, 26 years of age, carpenter by occupation Family history good No case of insanity or of serious nervous disease had ever been present June, 1885, the patient received a blow from a club in the hands of a negro, the wound inflicted being midway between the fissure of Rolando and the external occipital protuberance, slightly to the left of the median line It was treated as an ordinary scalp wound, as it suppurated for three months Four years after the inception of the wound, he complained of severe pain in the left parietal and occipital regions of the head October, 1888, he was sent to an insane asylum, where he remained sixteen months His condition improved, he returned home, but was again sent back to the asylum, where he was detained five months Four months later he was brought to Dr Cale, who diagnosed traumatic insanity, advised operation, which was consented to Recovery

Case 2 was one of acute mania, following a trauma Operation performed the same as in Case 1 Recovery

Dr William Fuller, of Grand Rapids, Mich, had operated on two cases of insanity, due to traumatism, one in Montreal in 1870 The patient was discharged from an insane asylum as incurable When the dura mater was opened, there escaped some serum A few days subsequent to the operation, the patient was rational, but as soon as the wound closed up the hallucinations returned He then punctured the brain in two or three different directions with no result except to establish drainage The man died two months later, and a post-mortem examination revealed a tubercular abscess in the fissure of Sylvius, containing about two teaspoonfuls of pus The other case was due to syphilis, and was relieved by the removal of the pressure from that disease

Dr J Frank, of Chicago, reported an interesting case of insanity in which he trephined, removing a large piece of bone A piece of the brain was also excised for examination, and seemed to be healthy The patient, after being in an insane asylum for five years, made a complete recovery, and took up the thread of life where she left it She continued in this way for one year, then relapsed What was the reason of her recovery? In opening the dura, there was a gush of cerebral fluid Dr Frank firmly believes that it is not the depression of the skull which produces the bad result, but that at the time of the injury there is a chronic inflammation of the meninges, or a slow inflammatory process, which throws out cerebral fluid This fluid may be in the ventricles between the dura and the brain, or in the tissues of the brain filaments themselves, and the theory of concussion, held by the profession, he believes is erroneous He had repeatedly made experiments on dogs by rapping them on the head and rendering them insensible, and immediately thereafter, effusion was found

Dr Maas, of Detroit, thought we were in the dark as to the exact cause of the insanity in many cases, and that there was evidently some vasomotor disturbance

Dr Maas then read a paper which was largely a statistical one, in which he pointed out the comparative value of the medical and surgical treatment of appendicitis

Dr William E Wirt, of Cleveland, Ohio, read a paper on

THE USE OF DRY HEAT OF HIGH TEMPERATURE IN THE TREATMENT OF JOINT DISEASES

Shortly after reading a description of this treatment in the medical journals, the essayist encountered a case of rheumatoid arthritis, in which he resorted to this method The treatment was followed by great improvement in the motion of the joint, and in the comfort felt by the patient He also reported a case of rheumatism of a year's standing, in which there was more or less fixation He broke up the adhesions, made use of the high application of heat, and raised the temperature to 290 degrees, which was followed by decided improvement in the ease with which the patient could move the joint and the relief from pain

Dr Carter S Cole, of New York, presented a paper on

ULCERS OF THE LEG, ALL CAN BE CURED

What constitutional conditions obtain that favor morbid states, or that retard a return to a healthy state, such a diathesis receives its proper treatment, whether or not ulcers exist For systematic purposes, ulcers of the leg were designated by the author according to their appearance as healthy, irritable, indolent, etc In intractable cases, he is inclined to place foremost thorough washing with soap and water and good scrubbing with a stiff bristle hair brush If the ulcer be inflamed, irritable or painful, anesthesia may be required for this and subsequent steps The next step is a thorough cleaning out of all soft granulations, and the base of the ulcer with a sharp curette The edges of the ulcer are freed from their attachment, and in many cases with a curved sharp bistoury he nicks the circumference at intervals of about one-quarter of an inch If much hemorrhage follows, a pad of gauze wrung out of a 2 per cent solution of carbolic acid is placed over the wound, and a firm compression bandage from the toes to the knee applied, the wound having been previously cleansed with the carbolic solution The dressing, when used, is allowed to remain for twenty-four or forty eight hours, after which he considers the ulcer to have become a simple one, and amenable to treatment as follows no further lotion is used The wound is wiped off with dry cotton, and over and completely covering it, he places strips of diachylon plaster to protect the ulcer Over the surgeon's plaster he applies a pad of sterilized gauze, held in place by strips of rubber adhesive plaster, or often simply by a bandage He then uses a firm muslin bandage from the toes to the knee, making equable compression Bandaging should be carefully done Sometimes he uses two bandages three inches wide and eight yards long This bandage is *not* removed unless the discharge comes through, or the leg becomes painful, or the bandage gets loose When he re-dresses the ulcer, he again uses simply dry absorbent cotton to cleanse the wound, and proceeds as before Often after two or three dressings, the bandage may remain five to seven days without being disturbed In some cases a thin scum forms on the ulcer, which must be removed by going over the surface lightly with a curette With this treatment, in ordinary cases about three weeks will suffice for an ulcer of even a dozen years standing In extraordinary cases, as much as six weeks may be necessary

Dr Eugene Fuller, of New York city, presented an article on

HOW TO DIAGNOSTICATE SEXUAL DERANGEMENTS IN THE MALE

The author endeavors to impress upon the profession the fact that in the majority of instances, sexual derangements in the male are caused by pathologic processes in or about the seminal vesicles, and further, that they accomplish their results by interfering with the mechanism of ejaculation He calls attention also to the fact that this side of the question has been almost wholly neglected by preceding writers on sexual disorders, who have devoted themselves largely to psychologic conditions in this connection, the result being that the great majority of the profession associate sexual disturbances with some radical mental defect Sexual derangements in the male should be diagnostically arranged in four classes 1, those dependent on seminal vesiculitis, 2, those dependent on neuroses, 3, those dependent on primary mental disease on degeneration, 4, those dependent on general malnutrition and debility The order of this classification corresponds to the frequency with which these different forms of diseases are encountered in practice In explanation of the first class of causes, the writer states that it is needless to go into details, since he has recently reviewed that subject very fully in his book, just published

Where seminal vesiculitis exists, there is generally a previous history of urethral or bladder inflammation, sexual abuse and the like, all of which are agents tending to produce localized inflammation in the seminal vesicles

The second class of causes either inhibit or excite the sexual center by means of reflex nervous action

The third class of causes includes the different forms of paranoia, in which the sexual sense exists in a perverted form

The fourth class of causes is a small one It includes individuals, generally young or middle-aged, who make complaint that they are capable of little sexual exertion and that feelings of prostration and exhaustion result whenever coitus is attempted

Dr Fuller then takes up the clinical examination In conclusion, the writer makes some special remarks on the different appearances that the varying grades of seminal vesiculitis present to the sense of touch, and calls attention to the fact that in cases of extensive perivesiculitis, involving both sacs, an inexperienced examiner is liable to err in diagnosis, mistaking the condition for hypertrophy or inflammation of the prostate The author holds that to become perfected in the feel of the seminal vesicles, the finger needs as much practice as does that of the gynecologist in feeling the ovaries and tubes To obtain the necessary practice, he advises the genito-urinary surgeon to make it customary to examine in this manner every male case coming into the clinic until all normal and pathologic conditions can be fully appreciated

Dr S P Collings, of Hot Springs, Ark, read a paper on

CHRONIC SEMINAL VESICULITIS WITH HEMORRHAGE

He said there has apparently been little known of the pathologic condition of the seminal vesicles until within recent years The usual cause of this trouble is the extension of gonorrheal inflammation from the prostatic urethra through the ejaculatory duct into the vesicle itself, at least, there is usually a history of a former gonorrhea with a chronic deep urethral trouble remaining The vesicles are sometimes involved in very acute and severe gonorrheal inflammation with or without the implication of the cord and epididymus They may also be involved with a tubercular inflammation, although practically never primarily

One observer reports a case in which the autopsy showed that the vesicle was primarily involved The most important symptom is the disturbance of the sexual function The character and appearance of the seminal fluid is more or less changed Its consistency is so increased at times that it is gelatinous The diagnosis of subacute or chronic seminal vesiculitis would be difficult to make, were we to depend entirely upon symptoms in reaching a conclusion They are vague and at times misleading except the appearance of the blood in the semen, which, if thoroughly mixed with it, would determine a diseased condition of one or both vesicles at once The author reported two cases discussed the treatment as applied to them, as well as that generally used in the subacute and chronic forms

In conclusion, he said that if inflammation of the vesicle occurs in one whose urethra is strictured, cure the stricture before we can hope for permanent results in vesical treatment

Dr. C T Drennen, of Hot Springs, Ark , read a paper on

SYPHILIS AND ITS TREATMENT

The author spoke more directly of the treatment of this disease in connection with the use and abuse of certain so-called antisyphilitic remedies He said, we are unable as yet to form definite conclusions as to the usefulness of sero therapy in the treatment of syphilis from the most recent researches but the reports are quite encouraging, and there is hardly a doubt but that it possesses value in at least the tertiary lesions Fournier believes the good effect to be due not to any specific, but to its rehabilitory effect upon the system The author said, in closing, that the hot water at Hot Springs was well known to exert an influence peculiar in its effects for good, and in it we had a veritable Mecca for syphilis That its action is eliminative, stimulative and antiseptic, and that larger doses of mercury and the iodid of potassium can be given without harm is known to the writer, based upon experience and observation, that its exact or specific action is unknown, and that its value is attested to by the multiplied thousands throughout the country, are propositions that are incontrovertible

Dr. William T Belfield, of Chicago, described and presented an instrument for the purposes of securing asepsis in bladder and prostate operations

Dr Thomas H. Manley, of New York city, read a paper on

THE ELEMENT OF VASCULAR COMPRESSION IN FRACTURE TREATMENT

The author considered at length the anatomic structure and vascular function as related to fracture The extent of damage borne by the vessels in a given case of fracture will primarily depend upon the degree and quality of force ap plied and the line of treatment adopted In a series of experiments made during the past year on the blood and blood vessels, under a multiplicity of conditions in the lower animals under anesthetics, one question which the author spared no pains to definitely determine was whether in fracture as a general rule, the circulation to the distal part of the limb was retarded in cases of fracture Without entering into detail on the great diversity of vascular phenomena observed in a frog's webbing under the microscope, after single, multiple and compound fractures were produced, it will suffice to say that with few exceptions, immediately and for a considerable period of time after the bone was broken, the circulation in the capillaries and the smaller arteries was completely arrested. In several it was found that for several days all the smaller vessels were motionless, and in a few they so remained until after the fractured ends of the bones united These experiments were extended to the mammalia, the shafts of the limbs of pups, kittens and adult dogs, of different ages and various sizes

Dr H O Pantzer, of Indianapolis, Ind , read a paper entitled

THE SIGNIFICANCE OF FISSURE FRACTURES OF THE ARTICULAR ENDS OF THE LONG BONES

He reported a case of fissure fracture involving the outer third of the head of the radius, having loose attachments to its body An excessive callus had likewise developed in its site without affecting union This splinter and callus were removed, when re position of the joint was easily attained The crepitus felt at the first examination and *the failure to* find it again, should have suggested fissure fracture in the opinion of the author When the first dressing was removed, the limb seemed to present a perfect condition, and to promise full restoration These prospects were changed as soon as passive and active mobilization was begun The probability is that the attempts at mobilization for this kind of injury was begun too soon, and that they were at least partially responsible for the subsequent unfavorable developments The author concludes that when undue painfulness and subsequent swelling with no gain or even a loss of mobility attends the efforts of mobilization after kindred lesions, we should delay further efforts at mobilization The possibility of a fissure fracture should be considered in determining the diagnosis and treatment of all cases of joint injury

Dr E W Andrews, of Chicago, contributed a paper entitled "Imbrication or Lap Joint Method—A Plastic Operation for Hernia" (See Journal June 15, p 934)

Dr Charles A L Reed, of Cincinnati, presented a paper on

FURTHER OBSERVATIONS ON THE RADICAL CURE OF RUPTURE BY THE INTRAPELVIC METHOD, WITH ILLUSTRATIVE CASES

In what essential particulars does this intrapelvic method differ from the several methods of radical operation *now in* vogue? It differs, in the first instance, in the fact that it is intrapelvic, while the others—Bassini's, Halsted's McBurney's, Macewen's—are extrapelvic The essential point of difference between Dr Reed's operation and that of Bassini, consists in 1, leaving undisturbed the extremely tense fascia composing the anterior wall of the ring , 2, in leaving the cord in the position which Nature designed for it, and entirely protected by the normal fascia 3, in closing the internal ring on the inside of the pelvis, and in protecting it by a strong peritoneal pad , 4, in avoiding the menace to virility arising from a transplantation of the cord, its possible constriction by an artificial ring of tense fascia, and its necessary investment by an inflammatory exudate , 5, in increasing the resistance of the parts by fortifying the fascia *comprising the anterior wall of the ring, and by* increasing and making permanent the obliquity of the cord within its normal canal

The advantages of the operation consist in securing by *the unfolding of the redundant but* attenuated median fascia, the formation of a column which, when consolidated by inflammatory adhesions, has a certain retentive and supportive power the influence of which is of value in prevent*ing* recurrence The anchorage of the recti in the median line restores the retentive power of the wall

Dr Henry O Marcy, of Boston, followed with a paper entitled

SURGICAL TREATMENT OF HEMORRHOIDS

This paper was in the nature of a reply to the strictures cast upon the Whitehead operation by Dr Edmund Andrews, of Chicago, in a paper read before the last meeting of the Illinois State Medical Society Dr Marcy believes that if in the statistics given by Dr Andrews the names of the operators were mentioned, most of the disastrous results *will be* found to have followed the work of incompetent men His results had been excellent in those cases in which he had done the Whitehead operation, slightly modified by himself

Dr. John Ridlon, of Chicago read a *paper on*

CLUB FOOT,

which he defined as a distortion of the foot in its relation to the leg The simple and compound varieties of club foot were dealt with Nearly all of the congenital cases present the compound variety—equino-varus , a few present equino-valgus , rarely there is seen a simple calcaneus Of simple equinus the author had met with but a single instance, and of simple varus and simple valgus, he had seen none Of the acquired variety, simple equinus is by far the most frequently found , next in frequency we find simple valgus , then equino-varus , calcaneo valgus, equino-valgus, simple varus, and varus in one foot and valgus in the other The acquired deformity occurs more than three times as frequently as the congenital form The etiology of the congenital forms was next dealt with, as well as of the acquired forms Then followed the symptoms, diagnosis and prognosis

The *treatment* of club foot is mechanical or operative, or both mechanical and operative Both these measures were dealt with at length

Dr E E Tull, of New York, read a paper on 'Vaginal Castration" The author claimed for this method a lower mortality, a shorter convalescence and a wider adaptability as it may be practiced in cases too weak for abdominal section would cause less harm than a few microbes thrown into the source of water supply ”

At the end of the first day, the following were among the permanent officers elected President, Clark Bell, Medical Vice-Presidents, T D Crothers, R Ogden Doremus, Paul Gibier, W B Outten, Irving C Rosse, Forbes Winslow, H Louise Thomas, and Frank H Caldwell, of Florida, Secretaries, Moritz Ellinger, F B Downs, Albert Bach, Clarence A Leighton, Charles A Doremus, of New York, Treasurer, George Chaffee

A resolution was passed at the close of the session expressing the belief of the conference that medical and law schools should include medical jurisprudence in the curriculum, and that examination in the subject should be made compulsory Another resolution provided for the appointment of a Standing Committee on Medical Jurisprudence by every National and State Bar Association

Dr W X Sudduth was chairman of the Department of Experimental Psychology, and Dr G P Conn Chairman of the Section on Medico-Legal Surgery Dr H A Mott presided over a Section on Medico-Legal Chemistry Professor M C White was Chairman of a Section on Legal Microscopy Judge A H Dailey, and Hon M Ellinger each presided over special sections

The New York Medico-Legal Society, through its energetic Secretary Mr Clark Bell, projected and carried out this Congress, which was undoubtedly the largest and most successful public discussion of Medical Jurisprudence ever held

The Congress ended with a reception and banquet at the Press Club

MENTAL HYGIENE OF WOMEN

One of the papers read before the Medico-Legal Congress lately in session in New York, was an urgent plea by a woman, Mrs Connors, to the medical and legal professions to do something to cure the marked emotional tendencies of her sex She asserted that on the physician rested largely the responsibility for this state of affairs, and that if our profession did its whole duty, much of the evil of which she complained would cease to exist That women are invalids because encouraged to be such by the doctors is a libel on the medical profession, and is probably never intended to be said except by certain irresponsible writers But that they are humored in their invalidism may perhaps be more justly charged, though any unqualified and absolute condemnation even of this course may be a mistake When female ailments are not a palpable organic fact, they are the indications of a psychosis, the efficient moral treatment of which may be a serious question, and one may err as much in any attempted brusque repression as in the following the fancies of the patient and admitting to some extent, even, the reality of her troubles

In a recent publication (“The New England Invalid,” Shattuck Lecture, for 1895), Dr Robert T Edes discusses this subject very fully and instructively He concludes that the condition of nervous invalidism is very possibly connected with actual changes in the neuron, analogous to those that have been demonstrated by Hodge as the result of fatigue, thus indicating a rational possible pathology of neurasthenia in both sexes Emotional weakness is only one symptom of the disorder, and that it is most observable in woman is due to the natural constitution of the sex as well as to social conditions and environment The “new woman,” so far as she is to be realized, will not at once throw off all tendencies in this direction that she has acquired through the ages by heredity, and nervous enfeeblement will undoubtedly exhibit itself in her by special manifestations due to this as well as to the structural peculiarities of sex

With this basis of heredity, Dr Edes holds, the fully developed condition, ranging in all its forms from pure nervous exhaustion to hysteria and insanity may be acquired at any time, but especially in early life, either gradually or as the result of disease or shock Its treatment must be based on a careful diagnosis by exclusion of all actual organic disorder, and must then consist in restoring the exhausted nerve elements by proper nutrition and rest, and the appropriate moral treatment which must be individual in the full sense of the word, and to be successful requires unlimited tact on the part of the physician In this, as Dr Edes says, expectant attention is for therapeutic purposes, a much better thing than argumentative and combative attention, it may be worse policy often to tell a neurotic woman that her ills are imaginary than it is to enlist her vanity in the therapeutics of her supposedly remarkable symptoms Woman’s psychic weaknesses may be thus, in a measure utilized as a counteracting influence to her physical ones, and humoring her ailments be a direct aid to their cure When a woman feels ill, she thinks she knows it, even if it is not possible to find any tangible objective reason for it

Women are by their physiologic organization more inclined to be emotional than men, and the prevalent systems of education and the conventional social usages probably increase to some extent this tendency The “new woman” may throw off these latter, but she can not relieve herself of her physiologic handicap of more delicate response to sensory impressions

The New England invalid, studied by Dr Edes, is a type too common in our older settled communities, but is largely the result of heredity and the selective process due to emigration The alarmist note of

Mrs Connors, while indicating a present evil, would have applied even more forcibly, it is probable, in the past few decades than now, in the greater portion of our country

THE AMERICAN ORTHOPEDIC ASSOCIATION

The ninth annual meeting of the American Orthopedic Association will be held in Chicago on the 17th, 18th and 19th of the present month Some fifty papers, many of unusual interest, are promised in the program which appears elsewhere in this issue of the Journal Mr Bernard Roth, of London, England, will contribute a report on 1,000 cases of lateral curvature of the spine treated by posture and exercise Mr William Adams, of London, a paper on the mechanical treatment of congenital dislocation at the hip, and Mr Bernard Brodhurst, of London, on the operative treatment of the same displacement Dr H Augustus Wilson, of Philadelphia, will report on seventy cases of splicing the tendo Achillis Dr Royal Whitman, of New York, whose writings on flat foot are classic, will discuss the subject of weak foot, its cause, diagnosis, and cure Every surgeon who has read the prize essay on hip disease by Dr R W Lovett, of Boston, will be interested to know that, in connection with Dr John Dane, he will present an essay on club-foot, this will be discussed by Dr A M Phelps, of New York

A study of the origin and growth of this society might be of interest to those connected with similar special societies *When it is remembered that very* few men have any special interest in orthopedics, and that the number of subjects upon which the orthopedist may write is also very limited, one marvels at the well attended meetings and the 400 page volume of Transactions which the Society publishes annually We are inclined to think that the vigorous growth of the Association is due in no little extent to the rigid requirements for admission, the high annual dues and the generous expenditure in the publication of the Society's Transactions

THE COMPLAINT OF THE MANUFACTURING CHEMIST

For many years there have been complaints that the druggist in filling prescriptions either disregarded the wishes of the prescriber *in toto*, or only made a pretense of using the particular preparation designated in the prescription

One chemist in St Louis recently informed the Journal that by an actual test in more than one-half the cases where his preparation was asked for, the article obtained was not his own make Other manufacturers have made the same complaint Professional sentiment could crush this business of substitution if once concentrated on this question If Dr Smith writes for "Jibb's Ether," "Kibb's Chloroform," or "Maudlin & Co 's Fluid Extract," if Jibbs, Kibbs and Maudlin & Co , are reputable manufacturers it should be furnished When Dr Smith writes a prescription and Druggist A receives it, A is bound in honor to either furnish the exact brand called for, or to privately communicate with Dr Smith, and explain *why* he can not do so There is no more reason why it should not be recognized as dishonesty to substitute one article for another, than there is reason to condone any other method of obtaining money under false pretenses Common honesty requires that a prescription should be filled with the identical articles named therein, and any druggist who makes a business of substitution should be promptly dropped by the profession

At least, the Illinois Legislature at its last session seems to have so regarded it, for a penalty was enacted on all pharmacists who should substitute one drug for another

CHRISTMAS WEEK, 1897

Our Mexican confrères have authorized Professor Pepper to announce that the second Pan-American Medical Congress will be held in the City of Mexico Christmas week, 1897

In Mexico, the week of the Nativity is the week of festival and rejoicing The Christmas chimes peal merrily, the city is in holiday garb, entertainment, good fellowship, and overflowing hospitality characterize the season

Business, while not actually suspended, is carried on only so far as is absolutely necessary for the purposes of commerce and public comfort

The management have done wisely in choosing Christmas week as the one in which shall be held the second Pan-American Medical Congress

CORRESPONDENCE

The Code—Another Reply to Amicus Veritatis

Canton, Ohio, Sept 11, 1895

To the Editor —The gentleman writing the open letter to you and signing himself *Amicus Veritatis*, reminds me of a ship at sea without a rudder, or a man out on the sea of professional life without a conscience, roaming about seeking whom or what he may devour from a non-professional or commercial standpoint If the writer were to take up the Code and be determined to read and understand it in the same spirit as it was given us, in accordance with the Golden Rule, he would, I am sure, entertain a more exalted opinion of our profession I read the communication very carefully, and laid it aside with a silent expression of pity for the writer

Respectfully, S A C

PUBLIC HEALTH

Anthrax in a New Jersey Dairy —Representatives from the New York City Board of Health have visited a section of Cumberland County New Jersey, for the purpose of investigating an outbreak of anthrax among cattle, and its relation to the milk supply of that city They reported the disease to be in a limited area, and the affected cattle to be under the supervision and control of the State Dairy Commission, so that none of the products of the infected herd can be shipped

Crematory for Refuse in New York City—On September 5, a new crematory for the incineration of city refuse, except garbage and ashes, at Twelfth Avenue and Fifty-third Street, began operations Three car-loads of material were burned, and the inventor of the system said he was well satisfied with the result If this system is adopted by the city it will require five or six plants conveniently located to dispose of all its refuse The capacity of the first plant, when working night and day, is estimated at sixty tons

Disinfection in Typhoid Fever—Even when the fecal discharges of a typhoid fever patient are properly disinfected, which is by no means so much the rule as the exception—especially in country districts—little or no attention is paid to the disinfection of the urine Wright and Semple, however, in a recent issue of the London *Lancet* (July 27 ult) draw attention to the frequency with which the typhoid bacillus may be found in the urine of such patients, they, themselves, have found them in six out of seven cases examined It is suggested further that their presence will help to clear up the diagnosis of doubtful cases and to explain the serious kidney complications which are not uncommon in typhoid fever The late complications of the disease, regarded by some observers as due to the coli communis, are also probably caused by the wide-spread diffusion of the typhoid bacillus

Cholera Mortality in Japan—In view of the present prevalence of Asiatic cholera in Japan, the following summary[1] of the ravages of this disease in the land of the Mikado have a timely interest When cholera first appeared in Japan is not known, but it is supposed that it was in 1822 Between 1858 and 1860 the disease again made its appearance, but there are no returns for those years They are, however, complete from Jan 1, 1877 up to July 19, 1895

Year	Cases	Deaths	Year	Cases	Deaths
1877	13,816	8,027	1887	1,228	654
1878	902	275	1888	811	460
1879	162,637	105,786	1889	751	431
1880	1,580	618	1890	46,019	35,227
1881	9,389	6,237	1891	11,142	7,760
1882	51,631	33,784	1892	874	497
1883	969	434	1893	633	364
1884	900	414	1894	546	314
1885	13,772	9,310	1895 (to July 19)	7 901	4,804
1886	155,923	108,409			

"A Burning Fiery Furnace"—In the discussion on the cremation of garbage and town refuse in the British Medical Association at its recent meeting, Brigade-Surgeon Pringle, M D , took occasion to call attention to the fact that the subject is a very ancient one In the East in many places fires are still used, as they were centuries ago, as the great sanitary measure of the city, and the Tobhet or Tophet of Jerusalem or as Milton calls it, "black Gehennum, styled the type of hell," was the place of burning refuse, where "the fire was never quenched," and the burning fiery furnace of the plain near Babylon was only a vast receptacle for burning the city refuse, and the fact of those who threw in the Hebrew captives being burnt was due, no doubt, to some defect in the draught-shutters, by which the flames instead of passing up the chimney rushed out at the door The plan on which this vast cinerator was built is what is seen now in the East where bricks, etc, are burnt for the purpose of securing a draft in that windless land

Severe Punishment for Milk Adulteration—It appears that one of the new police magistrates of New York city has been for years interested in chemistry His brother justices having delegated to him the trial of the adulterated milk cases, he has instituted an unusually severe line of discipline against dealers found guilty by the inspectors of the Board of Health Fines of $100, with ten days' imprisonment, were among some of the heavy sentences imposed, the lighter grade of sentences was a fine of $25, with or without five days' imprisonment This latter sentence was the exception, whereas under the old régime the light punishment was almost the invariable rule, except in the case of second or third offenses The Health Officers are especially desirous of getting convictions of certain wealthy wholesale dealers and jobbers in low test milk, and the court, in some instances, suspended sentence as to the smaller dealers found guilty for the purpose of securing the coöperation of the latter in bringing the former to justice This action, if carried out to a successful issue, will have the effect of striking at the fountain head of much of the impoverished milk supply of that city The court pointed out the fact that the City Board of Health had received very little aid and comfort from the State Dairy Commission in combating the evil of adulterated milk On this point the magistrate is reported to have remarked "It is incomprehensible to me why this Commission, which receives such a large sum of money from the State, does not at least lend a hand in stopping this traffic in impure milk The Commission, so far as I can learn, appears to confine itself to chasing people into boarding houses and arresting them for selling or eating oleomargarine, which is much better than much of the alleged creamery butter in the market"

The counsel for the accused had been carefully primed for his work, and sought to entangle the Health Board's chemists by asking them what sort of milk a cow would give that was bothered with Texan flies, and what was the difference in the milk from a high-fed Jersey and a low-fed Holstein, but the fines fell heavily "all the same"

Leprosy in Cape Colony and India—The Commission appointed by the Cape government to study the question of leprosy has finished its labors and made its report According to the census of 1891, the total number of lepers at the Cape was 625—366 men and 259 women—or a proportion of 4 77 per 10,000 inhabitants Of this number 532 were born in the colony, 41 in the countries of Africa, 1 in Asia, and 51 were Europeans, or of the white race Among the latter were four individuals who were not born in the colony and were only attacked after arrival in South Africa The disease seems to have markedly increased, for in January, 1895, the number of lepers was 1,177, or nearly double that of four years previous As regards frequency, it is found most often among the Hottentots, then come the mixed races, next the Malays, and lastly the Kafirs and Europeans The Commission is of opinion that the theory of contagion is the only one capable of satisfactorily explaining the increase or diminution of the disease Moreover, the mode of living in the country favors the spread of the disease No instance of transmission by vaccination has come under the notice of the Commission However, the disease is, as noted above, most prevalent among the natives, who are opposed to vaccination As regards the influence of heredity, the Commission, while neither affirming nor denying it, is of opinion that it occurs but very rarely No treatment is of any avail, isolation is to be insisted upon and furnishing notice of the existence of lepers should be made obligatory upon landlords, physicians, etc It is interesting to note that the report of the Commission in India, appointed for a similar purpose, gives exactly opposite results In 1891 there were 126,361 lepers in India, 31 069 of whom were women The Indian Commission declares that the dangers of the propagation of leprosy are considerably exaggerated and regards the disease as non-contagious, hence there is no necessity for obligatory isolation, with the exception of vagabonds The Indian Commission, moreover, recommends the exclusion of lepers from certain occupations The questions of the heredity and of the contagious nature of leprosy are far from being settled definitely On the one hand are Zombaco Pasha, Armauer, Hansen and Ehlers, on the other, the Cape and Indian Commissions which arrive at diametrically opposite conclusions[1]

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[1] Abstract of Sanitary Reports, Sept 6, 1895

[1] La Semaine Medicale, July 31, 1895

Health Reports —The following health reports have been received at the office of the Supervising Surgeon General Marine-Hospital Service

SMALLPOX—UNITED STATES

Louisiana New Orleans, August 3 to 31, 2 deaths

Michigan Kalamazoo, August 17, 1 case, Calhoun, August 24, 1 case

Tennessee Memphis, August 1 to 31, 3 cases

Texas Eagle Pass September 4 to 8, 5 cases, and 3 deaths Total smallpox cases and deaths among refugees at Camp Jenner, near Eagle Pass, 177 cases, 55 deaths

SMALLPOX—FOREIGN

Cairo July 23 to August 5, 8 deaths
Calcutta July 20 to 27, 5 deaths
Constantinople June 1 to 31, 39 deaths
Dublin August 17 to 24, 3 cases
Gibraltar August 11 to 18, 1 case
Havana August 24 to 31 2 deaths
Hong Kong July 20 to 27, 1 death
London, Eng August 17 to 24 6 deaths
Montevideo July 27 to August 3, 1 case
Naples August 16 to 23, 1 case, 1 death
Nice July 1 to 31, 1 death
Nogales August 31, 1 case, 1 death
St Petersburg, August 3 to 10, 4 cases, 1 death
Prague August 3 to 17, 2 cases
Rio de Janeiro August 3 to 10, 68 deaths
Rome June 22 to 29, 1 death

YELLOW FEVER—FOREIGN

Brazil Rio de Janeiro, August 3 to 10, 7 deaths, Santos, August 3 to 10, 2 cases

Cuba Havana, August 22 to 29, 90 cases, 30 deaths, Matanzas, August 21 to 28, 12 cases, Santiago, August 17 to 31, 44 deaths, Santa Clara, August 24, 2 cases, Santa Domingo, August 24, 2 deaths, Sancti Spiritu, August 24, 30 cases

Puerto Rico San Juan, August 3 to 24, 21 cases, 14 deaths

CHOLERA—FOREIGN

China Hong Kong, July 28 to August 3, 2 deaths

France Cognac, August 17 to 24, 1 death

India Calcutta, July 20 to 27, 9 deaths, Bombay, July 27 to August 2, 1 death, Singapore, July 16 to 22, 44 cases, 37 deaths

Japan Nagasaki, August 5 to 12, 40 cases, 30 deaths, Osaka and Hiogo, August 3 to 10, 243 cases, 179 deaths, Yokohama, August 2 to 16, 36 cases, 27 deaths

Turkey in Asia Aleppo, July 17 to 24, 24 cases, 21 deaths, Hamah, July 22 to August 8, 20 cases, 5 deaths, August 7 to 10, 1 death

BOOK NOTICE

Report of the American Humane Association on Vivisection and Dissection in Schools Chicago, 1895

This pamphlet consists mainly of replies to circulars sent out by the Humane Association in regard to the benefits and propriety of vivisection in the teaching of children Naturally, they are nearly all condemnatory—in fact, there is very little to be said in any way for the practice It is a very different thing from experimental investigation, and young children can, and readily will take physiologic facts on trust without practical demonstration, which will, at the best, be likely to be very imperfectly appreciated

The tendencies of children to torture animals need checking, and vivisection under the sanction of instruction is, with them on the whole, liable to do harm rather than good.

NECROLOGY

Robert L Vaught, M D, of Chattanooga, Tenn, was born May 24, 1863 He was drowned August 28 ult., while bathing in the Great Kanawha River at Henderson, W Va He was spending his vacation at the home of his nativity and when the news of his death reached his friends and relatives, both far and near, sorrow was general Professionally and socially but few physicians enjoyed the popularity he attained Dr Vaught was graduated in medicine March, 1884, at the Medical Department of the University of Nashville and Vanderbilt University, and served one year as interne to the City Hospital of Nashville, located in Chattanooga At the time of his death he was professor of anatomy in the Chattanooga Medical College, Member of the Chattanooga Medical Society, Tennessee State Medical Society and the American Medical Association He left an aged mother and an only brother beside other relatives and numerous friends who mourn his untimely death

Henry W Rand, M D, of Brooklyn, N Y, August 31 Dr Rand was born in Nova Scotia in 1851 and was graduated at Acadia University in 1878 He received his degree as Doctor of Medicine in the Bellevue Hospital College of Medicine in 1877 In that year he was appointed resident physician at the Brooklyn Hospital, and later visiting surgeon to the Brooklyn Orthopedic Infirmary, filling this position for several years He was visiting physician to the Home for Destitute Women and Children for several years and had charge of the department of women's diseases at the Atlantic Avenue Dispensary In 1884 he was appointed attending surgeon of the Long Island College Hospital, and in 1890 to St Johns Hospital, filling both places at the time of his death ——N E Wright, M D, Berea, Ohio, September 10 He was a native of Ohio, and was 61 years of age ——M H Murphy, M D, Scranton, Pa, August 4, aged 32 ——H C Reid, M D, Mariposa, Cal, September 7 ——C V Jones, M D, formerly of Indiana, at San Jose, Cal, September 7, aged 40 years

MISCELLANY

Jefferson Medical College —The chair of pathology in the faculty of the Jefferson Medical College in Philadelphia is vacant

An Illegal Practitioner Sent to Jail —In New York city, the lawyers employed by the County Medical Society have secured the conviction of a "Doctor" Ruffo for practicing medicine without a license and registration He was sentenced to a three months' term in the penitentiary

Medical Students in Holland —The universities of Holland have an attendance during the current collegiate year of 2,940 students, of whom 1,486 are studying medicine, distributed as follows 624 at Amsterdam, 349 at Leyden, 277 at Utrecht, and 236 at Groningen

Parisian Practice —Mons X, according to *Le Journal de Medicine de Paris*, consulted his physician, saying that he was not feeling at all well, being tormented nightly by "bad dreams" and especially by visions of women in "the altogether," *a la* Trilby and Mother Eve "That is easily remedied," replied the doctor "Every night before retiring you will take an infusion of fig leaves"

Treatment of Phlegmonous Inflammations —In the lesser phlegmonous inflammations alcohol dressings abort the inflammatory process and in the graver forms they cause the rapid formation of a circumscribed abscess filled with thick pus Alcohol of 60 to 90 degrees is to be used The skin of the inflamed area is cleansed with ether, if there is any open wound it is covered with powdered iodoform, then a thick, even layer of cotton soaked with alcohol is applied with a proper protective over it, this latter is pierced with holes or slits so as to allow evaporation of the alcohol and prevent any caustic action The dressing is kept in place for twenty four hours and must be renewed daily for some days after the disappearance of all tumefaction[1]

To Examine Medical Students —Springfield, Ill, August 31 — The Illinois State Board of Health has issued a call for examinations to be held in Chicago, September 16 and 17, of all matriculates in medical colleges not graduates of some literary institution The branches used in examinations are reading, writing, grammar, geography, arithmetic, composition, elementary physics and United States history The questions are furnished by the faculty of the State University, who will rate the papers and issue certificates to successful applicants These examinations have heretofore been

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[1] Gaz Med de Paris No 28, 1895

GARBAGE DISPOSAL —After many months of investigation and study by the Health Officer and the Commissioners, the question of garbage disposal in the District is at last settled It is to be destroyed by cremation and the "Smith furnace" is the one adopted as being the most satisfactory The question of location of the plant is now the all absorbing item As usual, protests and indignation meetings are springing up, opposing any location suggested by the authorities

REPORT OF THE WOMAN'S DISPENSARY —The report of Dr Magruder Muncaster, secretary of the Woman's Dispensary, for the past fiscal year states that the allowance from the Commissioners is $500, and that the amount received from other sources is $362 25, making a total of $862 25 Out of a little less than that the dispensary has compounded and given away 4,099 prescriptions, treated 123 male and 1,060 female medical cases, 52 male and 189 female surgical cases, made 816 external applications and attended 3,568 patients While the dispensary has sufficient wards for the accommodation of many who require hospital treatment, it is a source of regret that it has been compelled to close the hospital portion for several years, owing to lack of funds to pay for nurse hire and provide proper food For this purpose there is asked an increase of $1,000 in the appropriation

REPORT OF THE U S HOSPITAL FOR INSANE (ST ELIZABETH) —The fortieth annual report of the board of visitors to the Government Hospital for the Insane has been received at the Interior Department The admissions during the past fiscal year were 371, more than ever before except during the last two years of the war The whole number under treatment, 2,052, is larger than ever before The recoveries during the year were 98 and deaths 179 A mortality of 10 78 per cent of the average number of inmates and 8 72 per cent of the whole number under treatment More than half the sickness is charged to the flats of the eastern branch of the Potomac, which lie exposed to the sun Additional buildings are now under construction which will relieve the present crowding The estimates for current expenses during the coming fiscal year are $368,500, divided between the District appropriation and the sundry civil bills in the proportion of $104,049 to the former and the remainder to the latter This is on the basis of $220 per capita for an average of 1,675 inmates The other appropriations recommended are as follows general repairs, $20,000, rebuilding shops, $7,000, laboratory extension, $1,500, electric fans and resistance coils, $6,000, heating apparatus for new buildings, $4 500, renewing and fireproofing floors, $2,500, kitchen and dining rooms, $2,400 The extension of the laboratory is necessary for the important pathologic work, which is being carried on in connection with the treatment of the inmates

WATER METERS TO BE USED —The Commissioners have decided that all large consumers of water shall use meters, after October 1 next The rates will be 3 cents per each thousand gallons, payable quarterly A number of rules and regulations have been adopted with penalties for their violation The principal penalty is the cutting off of the water and a $2 charge for turning it on afterward

AGRICULTURAL CHEMISTS ASSOCIATION —About sixty government chemists met during the week at the lecture room of the National Museum It was the Association of Official Agricultural Chemists, and included many of the State chemists of the various States, beside a large number of other government workers and those interested in agricultural education The meeting was called to order by H A Huston, the president The object of the Association is to secure uniformity and accuracy in the modes and methods and statements of analyses relating to fertilizers, soils, cattle foods and dairy products The annual meeting usually lasts three days, and is made the time for presenting papers of general interest to the members The Secretary of Agriculture was present at the opening and made a short but instructive address

REPORT OF THE WASHINGTON HOSPITAL FOR FOUNDLINGS —Dr Z T Sowers, President of the Washington Hospital for Foundlings, yesterday submitted his report He states that the average number of children during the year was thirty-four The expenses have been greatly increased and the directors ask that the appropriation for 1896-97 be increased to $7,000, as the indications are that the number of applications for admission will be greatly in excess of any previous year Attention is called to the fact that there were twenty-three deaths during the year, while during the year ending June 30, 1894, there were thirty-four deaths

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THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from August 31 1895, to September 6, 1895

Leave of absence for two months to take effect on or about September 15, 1895, is granted Captain William C Gorgas, Assistant Surgeon

1st Lieut Alexander S Porter, Assistant Surgeon, is relieved from duty at Fort Keogh, Montana, to take effect on the expiration of his present sick leave and ordered to Fort Huachuca, Arizona, for duty

Major Joseph K Corson, Surgeon, granted leave of absence for two months

Captain Leonard Wood, Assistant Surgeon, is relieved from duty at Fort McPherson, Georgia, and ordered to report in person to the Attending Surgeon in this city for duty as his assistant

Captain Marlborough C Wyeth Assistant Surgeon, is relieved from duty at the Army and Navy General Hospital, Hot Springs, Arkansas, and ordered to Fort Huachuca, Arizona, for duty

Captain Julian M Cabell, Assistant Surgeon upon the expiration of his present sick leave will be relieved from duty at Washington Barracks, D C and ordered to report to the Surgeon General

1st Lieut Frank T Meriwether, upon the expiration of his present sick leave, will be relieved from duty at San Diego Barracks, California

1st Lieut Charles E B Flagg, Assistant Surgeon, upon his return from duty in the field, will be relieved from duty at Angel Island, California, and ordered to Fort Hancock, Texas to relieve 1st Lieut Francis A Winter, Assistant Surgeon 1st Lieut Winter, on being thus relieved, is ordered to Fort Grant, Arizona, for duty, relieving 1st Lieut George M Wells, Assistant Surgeon Lieut Wells on being thus relieved, is ordered to Fort Mason, California, for duty relieving Captain William L Kneedler, Assistant Surgeon Captain Kneedler, on being thus relieved, is ordered to San Diego Barracks, California, for duty

Captain Walter D McCaw, Assistant Surgeon, is relieved from duty at the Presidio of San Francisco, California, and ordered to Fort Ringgold, Texas, for duty, relieving 1st Lieut Champe C McCulloch Jr Assistant Surgeon Lieut McCulloch, on being thus relieved, will report in person to the Commanding Officer, Army and Navy General Hospital, Hot Springs Arkansas, for duty at the Hospital

1st Lieut George M Wells, Assistant Surgeon, granted leave of absence for two months to take effect on his relief from duty at Fort Grant, Arizona

Marine-Hospital Changes Official list of changes of station and duties of Medical Officers of the U S Marine Hospital Service, for the sixteen days ended August 31, 1895

Surgeon John Vansant granted leave of absence for thirty days August 24, 1895

Surgeon W H H Hutton detailed as chairman board for physical examination of officers revenue cutter service, August 22 1895

Surgeon Fairfax Irwin detailed as chairman board for physical examination of candidates revenue cutter service, August 30, 1895

P A Surgeon C E Banks detailed as member board for physical examination of candidates revenue cutter service, August 30, 1895

P A Surgeon G B Young, upon expiration of leave of absence, to report at Bureau for temporary duty in laboratory, August 28, 1895

P A Surgeon B W Brown detailed as recorder board for physical examination of candidates revenue cutter service August 30, 1895

E K Sprague detailed as recorder board for physical examination of officers revenue cutter service, August 22, 1895

Asst Surgeon J B Greene to proceed from Washington, D C, to Wilmington, N C, for temporary duty, August 22, 1895

LETTERS RECEIVED

Ashmead, A S, New York, N Y, Antikamnia Chemical Co, St Louis, Mo, Atlantic Medical Weekly, Providence, R I, Atwood, H M, Grand Rapids, Mich

Bleyer J Mount, New York N Y, Brunder, Geo, Milwaukee, Wis, Boody, Geo, Kankakee, Ill, Brenner, F T, Quincy, Ill

Coolidge, F S, Chicago, Ill Christison, J S, Chicago, Ill, Chamberlain, Geo L Bessemer, Mich Currie M L Ailey, Ga Chandler, H S, New York, N Y, Cone, Andrew, New York N Y, Cochran, Jerome, Montgomery, Ala Carpenter J W Omena Mich

Davis, Wm H Colorado Springs, Colo Darr H H, Caldwell, Texas

Elliott, A R, Chicago, Ill Evening Herald Co, Binghamton, N Y, Edwards, J B, Milwaukee, Wis

Gardiner, C R, Hadley, N Y Gardner, R W, New York, N Y, Galloway, D H, Chicago, Ill

Hummel, A L, (8) New York, N Y, Hyatt, B F, Ottumwa Iowa Haldenstein, I, New York, N Y

Johnson, H L E,, Washington, D C Jenks, Ernst P, North Brookfield, Mass, Jordan, S N Columbus, Texas, Jelks, J T, Hot Springs, Ark

Kenyon News & Postal Subscription Co, Chicago, Ill

Lamb, D S, Washington, D C, Levings, A H, Milwaukee, Wis, Le Hardy, J C, Savannah Ga

Mayo E L,, De Kalb, Ill, Moorhead, E L Chicago, Ill Messman, Hugo, Milwaukee, Wis Macey, The Fred Co, Grand Rapids, Mich McFarland, D W, Waterbury, Conn

Newman, H P, Chicago Ill Nelson, D E, Chattanooga, Tenn, Nolan, E C, Mt Pulaski Ill Nutrico The Food Co Reading Pa

Prentiss, J H, Ann Arbor, Mich, Pepper, Wm, Newport, R I, Parke, Davis & Co Detroit, Mich

Ridlon, J Chicago, Ill

Sears H B, Beaver Dam, Wis Schimmel, M S Baltimore, Md Smith, A A, Washington, D C Scollard, W E, Milwaukee, Wis, Stearns, F, Detroit, Mich, Subscription News Company, Chicago Ill Scribner's, Chas Sons New York, N Y, Snickland, W P, New York

Timpany, R H, (2) Toledo Ohio

Vowinkel F W San Francisco Cal

Wyman Hal C Detroit Mich Whitford, Wm Chicago Ill Wurdeman H V, Milwaukee, Wis, Westerveldt, J D, Alice Texas, Webber & Bigner Mansfield, Ohio Wilcox, Geo A, Augusta, Ga Wakefield W H, Charlotte, N C, Wilson, J C, Philadelphia, Pa

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ADDRESSES

SUICIDE AS A MENTAL EPIDEMIC

Read before the Medico Legal Congress at New York City Sept 5, 1895

BY FORBES WINSLOW, M B AND LL M CANTAB, D C L OXON M R C P LOND

SENIOR PHYSICIAN TO THE BRITISH HOSPITAL FOR MENTAL DISORDERS, EUSTON ROAD LONDON LATE LECTURER ON INSANITY CHARING CROSS HOSPITAL LONDON

The question of suicide is one which for some time has occupied public attention During the present year, in consequence of the alarming increase of suicide, I have decided to choose this subject for our consideration, hoping that perhaps what I shall place before the society may prove of interest to its members and draw their serious attention to a grave question

All human actions are under the influence and power of example more than precept, and consequently self-destruction has often been justified by an appeal to the laws and customs of past ages An undue reverence for the authority of antiquity induces us to rely more upon what has been said or done in former times than upon the dictates of our own feelings and judgment Many a mistaken individual has formed the most extravagant notions of honor, liberty and courage, and, under the impression that he was imitating the example of some ancient hero, has sacrificed his life He may possibly urge in his defense that suicide has been enjoined by positive laws and allowed by ancient custom, that the greatest and bravest nation in the world practiced it, and that the most wise and virtuous sect of philosophers taught that it was an evidence of courage, magnanimity and virtue The force of example is one which appeals to the mind of certain individuals, but is in itself based solely on a fallacy

No inferences deduced from the consideration of the suicides of antiquity apply nowadays, as we live under a Christian dispensation Our notions of honor, of death, and of courage are in many respects so dissimilar from those which the ancients entertained that the subject of suicide is placed entirely on a different basis History is replete with examples of moral and criminal epidemics during the past centuries The force of example and imitation is very great among a certain class of our humanity

The fourth century is remarkable for the rapid increase and spread of superstition, the reinstitution of image worship, the adoration paid to relics, and the many pious frauds of the so-called monks, the fifth century for the epidemic of climbing to the top of heights and there remaining Simon, a monk, adopted as a mark of sanctity the singular device of spending thirty-seven years of his life on the top of a high pillar Led by a false adoration and utterly ignorant of true religion, the inhabitants of Syria and Palestine followed the example of this fanatic and, what is more incredible, this practice continued in vogue until the twelfth century The rise and spread of Mohammedanism in the seventh century is one of the most remarkable instances of the rapid propagation of ideas and principles

STRANGE FANCY IN TENTH CENTURY

In the tenth century a very strange fancy seized upon men's minds They imagined that the end of the world was close at hand, and multitudes forsook their daily vocation, both civil and domestic, and gave their property to the church, and repaired to Palestine, where they imagined that when the end did come they would be in greater safety An eclipse of the moon or of the sun was considered as the immediate precursor of the end of all things, and many tried to bribe the Deity by great gifts to the church In a word, no language is sufficient to express the confusion and despair which tormented the minds of miserable mortals on this occasion Consequent upon this we have, perhaps, the most extraordinary epidemic for which fanaticism ever is responsible, for vast multitudes left for the Holy Land, and not a meteor fell across the skies but sent whole hordes on the same delusive errand Scarcely had this excitement departed when the plague, or black death, of the fourteenth century, set in, which appeared in 1333, in China, and passing over Asia westward, and over Europe and Africa, carried off about one-fourth of the population In Europe it is supposed that 25,000,000 fell victims to this dire pestilence All epidemic diseases have their moral aspect, and this one was attended by a constellation of fanaticisms and delusions such as man had never witnessed before or since The specific moral aberrations connected with this period were

1 The rise and spread of the flagellants, or whippers
2 The wholesale murder of the Jews on the suspicion of having poisoned the water
3 The dancing mania

In Mayence alone, 1,200 Jews were slaughtered by the flagellants, and with this epidemic was associated witchcraft, which then existed and was gradually increasing The dancing mania in 1374 consisted in persons joining hands and jumping about frantically for hours together, and falling down ultimately in a state of exhaustion This epidemic was tried during this century in the form of the "Shakers" in the New Forests, but so far as my recollection goes, the best antidote to the revived nonsense was the police court of the district, which evidently had the desired effect

In the sixteenth century demonomania existed largely, a belief that they were possessed by the devil, and many were burned at the stake in consequence Our present century has been full of epidemics of one sort or another I will just name, *en passant*, spiritualism There are three kinds of individuals the members of a particular family being hereditarily disposed, exhibited, when they arrived at a certain age, a desire to commit self-destruction. It required no exciting cause to develop the fatal disposition. No wish was expressed nor attempt made to overpower the suicidal inclination, and the greatest industry and ingenuity were exercised by the parties to effect their purpose. In two cases the propensity was subdued by proper medical and moral treatment, but, just in proportion to its being suppressed did the idea of suicide appear *to fix itself resolutely in the mind*. The desire came upon the individual like the attacks of intermittent fever.

A. K., a man aged 57, was twice married. He was a shoemaker by trade, but, not having received any education, his wife was compelled to keep all his accounts. He had experienced, when young, a blow on the head, which occasionally gave him pain. He became very intemperate in his habits, and at particular intervals he exhibited an uncontrollable temper, quarreled with everybody, neglected his business, abused his wife, and became extravagant and melancholy. During the paroxysm he would exclaim "Oh, my unlucky head! I am again a lost man!" When the attack subsided he returned to his business, was affectionate to his wife and family, most humbly begged for her pardon for having ill-treated her, and expressed the greatest contrition for his conduct. These attacks came at regular intervals. He procured a piece of rope for the purpose of hanging himself, and for some months carried it about with him in his pocket for that purpose. During one of his fits he effected his object. His grandfather had strangled himself, and his brother and sister had attempted suicide.

DANGEROUS EFFECT OF FALSE PRIDE

A common cause of suicide is a feeling of false pride. Owing to the ridiculously false views which are taken of worldly honors, the idea which a sickly sentimentality infuses into the mind, this feeling is engendered, to an alarming extent, through the different ranks of society. This constitutes one great element which is undermining and disorganizing our social condition. A fictitious value is affixed to wealth and position in the world; it is estimated for itself alone, all other considerations being placed out of view.

We can not conceive how this evil is to be obviated, unless it be possible to revolutionize the ideas which are generally attached to fame and worldly grandeur. It is difficult to persuade such persons that the end of fame is merely

> "To have, when the original is dust,
> A name, a wretched picture, and worse—bust."

There is a nameless, undefinable something, that the world is taught to sigh after, is always in search of, a moral *ignis fatuus*, which is dazzling to lead it from the road which points to true and unsophisticated happiness.

Among the causes which operate in producing the disposition to commit suicide, we must not omit to mention those connected with erroneous religious notions. M. Falret justly remarks that the religious systems of the Druids, Odin, and Mahommed, by inspiring a contempt for death, have made many suicides. The man who believes that death is an eternal sleep scorns to hold up against calamity, and prefers annihilation. The skeptic also often frees himself by self-destruction from the agony of doubting. The maxim of the Stoics, that the man should live only so long as he ought, not so long as he is able, is, we may observe, the very parent of suicide.

The Brahmin, looking on death as the very entrance into life, and thinking a natural death dishonorable, is eager at all times to get rid of life. The Epicureans and Peripatetics ridiculed suicide as being death caused by fear of death.

M. Falret, however, goes perhaps too far when he asserts that *the noble manner in which the gladiators died in public not only familiarized the Romans with death, but rendered the thoughts of it rather agreeable than otherwise*.

Misinterpretations of passages of Scripture will sometimes lead those who are piously inclined to commit suicide. M. Gillot hung himself at the age of 75, having left in his own handwriting the following apology: "Jesus Christ has said that when a tree is old and can no longer bear fruit it is good that it should be destroyed." (*He had more than once attempted his life before the fatal act.*) Dr. Burrows attended a nobleman who, for fear of being poisoned, though he pretended it was in imitation of our Saviour's fast, took nothing but strawberries and water for three weeks, and these in very moderate quantities. He never voluntarily abandoned his resolution. He was at length compelled to take some nutriment, but not until inanition had gone too far, and he died completely attenuated. When sound religious principles produce a struggle in the mind which is beginning to aberrate, the contest generally ends in suicide.

CLIMATE AND ITS EFFECT ON SUICIDE

Among the causes of suicide the foggy climate of England has been brought prominently forward. The specious and inaccurate conclusions of Montesquieu on this point have misled the public mind. The climate of Holland is much more gloomy than that of England, and yet in that country suicide is by no means common. From the following tabular statement we see that the popular notion of the month of November being the "suicide month" is founded on erroneous data. The average number of suicides in each month for years may be taken as follows:

January	213	July	301
February	218	August	296
March	275	September	246
April	374	October	198
May	328	November	131
June	336	December	217
Total			3,133

It has been clearly established that in all the European capitals, when anything approaching to correct statistical evidence can be procured, the maximum of suicide is in the months of June and July, the minimum in October and November. Temperature appears to exercise a much more decided influence than the circumstances of moisture and dryness, storms or serenity.

M. Villeneuve has observed a warm, humid and cloudy atmosphere to produce a marked bad effect at Paris, and that so long as the barometer indicated stormy weather this effect continued. Contrary, however, to the opinion of Villeneuve, it appears that by far the fewer number of suicides occur in the autumn and winter at Paris than in the spring and summer.

When the thermometer of Fahrenheit ranges from 80 to 90 degrees, suicide is most prevalent The English have been accused of being the beau ideal of suicide people The charge is almost too ridiculous to merit serious refutation Suicide is not an offense that can be deemed cognizable by the civil magistrate It is to be considered a sinful and vicious action To punish suicide as a crime is to commit a solecism in legislation The unfortunate individual by the very act of suicide places himself beyond the vengeance of the law He has anticipated its operation He has rendered himself amenable to the highest tribunal, namely, that of his Creator No penal enactment, however stringent, can affect him What is the operation of the law under these circumstances? A verdict of *felo de se* is returned, and the innocent relatives of the suicide are disgraced and branded with infamy, and that, too, on evidence of an ex parte nature It is unjust, inhuman, unnatural and unchristian that the law should punish the innocent family of the man who in a moment of frenzy terminates his own miserable existence It was clearly established before the alteration of the law respecting suicide, the fear of being buried in a cross-road and having a stake driven through the body had no beneficial effect in decreasing the number of suicides, and the verdict of *felo de se* now occasionally returned is productive of no advantage whatever, and only injures the surviving relatives

If the view which we have taken of the cause of suicide be a correct one, no stronger argument can be urged for the impropriety of bringing the strong arm of the law to bear upon those who court a voluntary death In the majority of cases it will be found that some heavy calamity has fastened itself upon the mind, and the spirits have been extremely depressed The individual loses all pleasure in society, hope vanishes, and despair renders life intolerable and death an apparent relief The evidence which is generally submitted to a coroner's jury is of necessity imperfect, and although the suicide may, to all appearance, be in possession of his right reason, and have exhibited at the moment of killing himself the greatest calmness, coolness and self-possession, this would not justify the coroner or the jury in concluding that derangement of mind was not present

MINDS OF SELF-MURDERERS DISTORTED

If the mind be overpowered by "grief, sickness, infirmity, or other accident," as Sir Matthew Hale expresses it, the law presumes the existence of lunacy Any passion that powerfully exercises the mind, and prevents the reasoning faculty from performing its duty, causes temporary derangement It is not necessary in order to establish the presence of insanity to prove the person to be laboring under a delusion of intellect—a false creation of mind A man may allow his imagination to dwell upon an idea until it acquires an unhealthy ascendency over intellect, and in this way a person may commit suicide from an habitual belief in the justifiableness of the act If a man, by a distorted process of reasoning, argues himself into a conviction of the propriety of adopting a particular course of conduct without any reference to the necessary result of that train of thought, it is certainly no evidence of his being in possession of a sound mind A person may reason himself into a belief that murder, under certain circumstances not authorized by the law, is perfectly just and proper The circumstances of his allowing his mind to reason on the subject is a prima facie case against his sanity At least it demonstrates a great weakness of the moral constitution A man's *morale* must be in an imperfect state of development who reasons himself into the conviction that self-murder is under any circumstances justifiable

We dwell at some length on this subject, because we feel assured that juries do not pay sufficient attention to the influence of passion in overclouding the understanding If the notion that in every case of suicide the intellectual or moral faculties are perverted, be generally received it will at once do away with the verdict of *felo de se* Should the jury entertain a doubt as to the presence of derangement—and such cases may present themselves—it is their duty, in accordance with the well known principle of British jurisprudence, to give the person the benefit of that doubt, and thus a verdict of lunacy may be conscientiously returned in every case of this description

Having, we think, clearly established that no penal law can act beneficially in preventing self-destruction—first, because it would punish the innocent for the crimes of the guilty, and, secondly, that, owing to insanity being present in every instance, the person determined on suicide is indifferent as to the consequences of his action—it becomes our province to consider what are the legitimate means of staying the progress of an offense that undermines the foundation of society and social happiness

If we are justified in maintaining that the majority of the cases of suicide result from a vitiated condition of the moral principle, then it is certainly a legitimate mode of preventing the commission of the offense to elevate the character of man as a moral being It is no legitimate argument against this position to maintain that insanity in all its phases marches side by side with civilization and refinement, but it must not be forgotten that a people may be refined and civilized, using these terms in their ordinary signification, who have not a just conception of their duties as members of a Christian community Let the education of the heart go side by side with the education of the head, inculcate the ennobling thought, that we live not for ourselves, but for others, that it is an evidence of true Christian courage to face bravely the ills of life, to bear with impunity "the whips and scorn of time, the oppressor's wrong, and the proud man's contumely," and we disseminate principles which will give expansion to those faculties that alone can fortify the mind against the commission of a crime, alike repugnant to all human and Divine laws,

> "And make us rather bear the ills we have,
> Than fly to others that we know not of"

CHAIRMAN'S ADDRESS

Read in the Section on Diseases of Children at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7 10 1895

BY EDWARD H SMALL, A M , M D

PITTSBURG, PA

We are met together in the sixteenth annual meeting of the Section on Diseases of Children, which was the sixth Section to be formed in the AMERICAN MEDICAL ASSOCIATION

This Section was organized under the chairmanship of Dr S C Busey of Washington, in the city of New

York, in 1880, with an attendance of about forty members At this first meeting but five papers were read, and the discussion was carried on by some ten gentlemen Since then the fortunes of the Section have varied At one time, interest in it had so declined that a motion was offered that the Section be done away with Fortunately, this motion was not passed

The best meeting that the Section ever held was that in Milwaukee in 1893 The program arranged for this present meeting has been gotten up to as great an extent as possible on the lines of the Milwaukee one

Although the report of the Committee on Revision of the Constitution was not adopted at the meeting in San Francisco last June, still it has been thought best to follow the provisions of the proposed revision, as much as possible, in making arrangements for this present meeting of our Section Accordingly I shall appoint at the close of this first session a Nominating Committee, consisting so far as may be, of ex-chairmen of the Section who are present This committee is expected to make its report at tomorrow's afternoon session It will then report nominations for chairman and secretary

The Executive Committee is composed of the three last chairmen of the Section

Provision has been made to have all the papers and discussions of the Section, together with lists of its officers and members, and the rules adopted for the conduct of its work, republished from the JOURNAL, in convenient form for preservation

The services of a competent stenographer have been secured to take full and accurate reports of all discussions

Letters have been sent to many physicians eminent in pediatrics throughout the country, soliciting papers for this present meeting, and it is hoped that the program made up from the papers thus obtained, and the discussions upon them will be interesting and profitable

The rule that papers must not consume in reading more than twenty minutes, and that no member shall occupy more than fifteen minutes in the discussion of any paper or papers will be enforced

The following resolution, adopted in 1888 was printed in the preliminary program, which was sent to all the gentlemen expected to take part in the proceedings of this Section and to others, viz "That in future each delegate or permanent member shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers" This was done in the hope that more members of the ASSOCIATION would identify themselves with our Section

The General Business Committee of the ASSOCIATION is composed of the Executive Committee of the several Sections This committee was created to take from the general sessions of the ASSOCIATION, much of its routine work, so that members of the ASSOCIATION can devote more time to the proceedings of the various Sections

Would it not be well also to have but one annual address delivered before the general session of the ASSOCIATION—that of the President on the first day, and have the three other annual addresses (those on General Medicine, General Surgery and State Medicine) delivered before the Sections in which they respectively belong?

In San Francisco last year, on the first day of the meeting a motion was passed that the hour of meeting of the general session be changed from 10 A M to 12 M, in order that all members might be able to be present If an annual address, not to exceed one hour's time were to be given each day at 12 M, and the regular routine business also carried out, this would not leave enough time to get lunch and then return for the afternoon Section work

An amendment is to be voted on at this meeting, offered in 1892,—"That Thursday morning's general session be omitted, and the time be devoted to sectional work" This has the same object in view as the above suggestion

If the three annual addresses were to be given in their respective Sections, instead of in the general sessions, then the general sessions could be held at noon each day, except the first, when the President's address is given and when the Sections do not hold any session, and the Sections could thus have a two and one-half, or three hours' session both morning and afternoon of each day

The good to be obtained from the AMERICAN MEDICAL ASSOCIATION must come from its Sections, and all efforts should be directed to make the work of each a success

At the Milwaukee meeting in 1893, it was moved and carried that this Section have a dinner at its next annual meeting Unfortunately so few attended its meetings in San Francisco that the dinner was never heard of I would be glad at any session to entertain a motion to have a dinner at our next annual meeting

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ORIGINAL ARTICLES

THE EARLY HISTORY OF VAGINAL HYSTERECTOMY

Delivered before the Chicago Medical Society, March 18, 1895

BY N SENN, M D, PH D, LL D

PROFESSOR OF PRACTICE OF SURGERY AND CLINICAL SURGERY, RUSH MEDICAL COLLEGE PROFESSOR OF SURGERY, CHICAGO POLICLINIC, ATTENDING SURGEON PRESBYTERIAN HOSPITAL, SURGEON IN CHIEF ST JOSEPH'S HOSPITAL
CHICAGO

Every great operation in surgery has a period of evolution of varying duration Each marked advance in medicine and surgery is preceded by attempts which led to the elucidation of old ideas or the conception of new ones All great discoveries are overshadowed by the labors of a host of earnest and progressive workers which ultimately crown the efforts of a favored few Nearly all of the improvements in medicine and surgery which have characterized the present progressive age are only a repetition of the work of our professional ancestors Many a so-called modern operation is only a recent and not always an improved edition of the operative technique as devised and described by one of the old masters These remarks apply with special force to vaginal hysterectomy The operation of removing the carcinomatous uterus through the vagina, so recently developed to its present state of perfection, was planned and performed by men who have long since departed, but whose names will always be intimately associated with the interesting history and gradual development of this operation

There can be no doubt that the first ideas which led to the plan of removing a diseased uterus through the vagina were based upon the results which followed the unintentional removal of the uterus in cases of mistaken diagnosis All of the early operations were done for prolapse or inversion of the uterus The idea of removing the uterus through the vagina originated with Soranus, who was a distinguished obstetrician in Rome during the reign of Emperor Hadrian The first authenticated description of removal of the uterus through the vagina was given by Berengarius, of Bologna, in 1507 Like all of the early cases, we are ignorant as to the exact pathologic conditions for which this operation was made, but there can be no doubt that part of the uterus was removed J Schenck a Grafenberg (1617) relates a number of cases in which the uterus was removed through the vagina, in whole or in part, by ignorant persons who had not the faintest ideas as to the nature of the difficulty or of the extent and gravity of the operation In 1792 Laumonier removed an inverted uterus below a ligature The patient died six weeks after operation The post mortem showed cicatricial obliteration of the vagina, absence of the uterus, the ovaries and tubes were found on the side of the rectum Baudelocque examined the specimen later and found that the inversion was caused by an intrauterine growth and explained that the operation was limited to the removal of the tumor, and that the uterus was removed later by the application of a ligature which opened the peritoneal cavity and caused the fatal suppurative peritonitis Beyerlé, on the other hand, asserted that the entire uterus was removed at the first operation Other cases of vaginal removal of the inverted uterus, with or without the presence of a uterine tumor, have been reported by Bardol, Marc-Antoine, Petit de Lyon and Widmann Cases of unintentional, partial or complete vaginal hysterectomy are also related by Sclevogt, J Ramsbotham, Figuet and Blasius Instances of partial or complete removal of the uterus in which the organ was rudely removed by midwives have been reported by Hildanus (1646), Wrisberg (1785) and Bernhard (1824) In the case reported by Bernhard the inverted uterus was removed by the midwife with a razor, the profuse hemorrhage was controlled by the introduction of fragments of ice into the vagina, and the woman recovered

Cases of intentional removal of the uterus by surgeons have been recorded by Zwinger, Vieussen, Baxter, Faivre, Alexander Hunter, Joseph Clarke and Johnson In Zwinger's case the amputation was made soon after delivery after preliminary ligation Death two days after operation The post mortem showed that the middle portion of the uterus had been removed In Baxter's case the uterus was amputated in the same manner five weeks after delivery Recovery six weeks after operation Faivre applied a ligature to the recently inverted uterus which sloughed and was detached on the twenty-seventh day after ligation, followed by recovery of the patient

Johnson cut off the uterus below the ligature and his patient made a good recovery In a second case of recent inversion of the uterus, the same surgeon applied a ligature to control the profuse hemorrhage The hemorrhage ceased and the ligature was removed two days later The hemorrhage returned, when the uterus was again ligated, and fourteen days later the fundus and tubes were detached in the form of a slough, after which the patient made a satisfactory recovery

Windsor (1819) operated on a case of chronic inversion by tying a silk ligature around the uterus He tightened the ligature more firmly every evening and on the twelfth day after the ligature had cut its way nearly through the tissues, he cut off the uterus below the ligature without incurring any hemorrhage The specimen removed was three inches in length and consisted of the uterus, round ligaments and a portion of the tubes and ovaries After a protracted illness the patient ultimately made a favorable recovery In Weber's case the inversion was caused by an intra uterine tumor, hastened by a midwife, who made an attempt to remove the tumor by traction Weber ligated the fundus of the uterus, tightened the ligature daily, and cut off a piece below it four and one quarter inches in diameter, and an inch and a half in length The specimen removed contained portions of the tubes Eight days after the application of the ligature the ligated mass sloughed off The woman recovered without any untoward symptoms and remained in good health a year after the operation

Rheineck operated on a similar case The patient was a multipara, 41 years of age The entire uterus was removed by the use of a ligature A careful examination after recovery of the patient showed no trace of the uterus In many of the cases operated upon before 1800, the diagnosis was uncertain, but in most instances the operation was performed for simple or complicated inversion of the uterus

Vaginal hysterectomy for malignant disease of the uterus dates back to the year 1812, when Paletta appears to have removed the entire organ The extent of the disease is unknown, but the tumor occupied the lower segment of the uterus Paletta did not know that he extirpated the entire uterus until he examined the specimen after the completion of the operation The patient suffered for nine months from pain in the back and hips and a copious serosanguinolent vaginal discharge The cervical portion of the uterus was the seat of an ulcerating tumor The operation was performed April 13, 1812 By the use of obstetric forceps and the hand, the uterus was brought down to the vaginal outlet The upper part of the vagina was incised with a pair of curved scissors After separating the lower segment of the uterus a hard body could be felt at the base of the tumor This hard body proved to be the fundus of the uterus which remained in connection with the tumor The patient died at the end of the third day Paletta did not intend to remove the entire uterus with the tumor, and the extent of the operation became evident only after the completion of the operation upon careful examination of the specimen removed The more general use of improved vaginal specula about the beginning of the nineteenth century enabled the surgeons to make an earlier and more accurate diagnosis in affections involving the vaginal portion of the uterus and rendered the organ more accessible to direct surgical intervention To Osiander, of Gottingen, more than to any one else, belongs the credit of popularizing the use of the vaginal speculum as a diagnostic resource and as an aid in operations upon the lower segment of the uterus As early as 1808 he resorted to the speculum and curved scissors in the removal of uterine polypoid growths To the same surgeon also belongs the honor of having devised and practiced for the first time supravaginal amputation of the carcinomatous cervix uteri The first operation of this kind he performed in 1801 The carcinomatous cervix as large as a child's head, which filled the vagina, was drawn through the vaginal outlet with a pair of Smellie's obstetric forceps The greater part of the tumor was torn away from the cervix, an accident which was followed by profuse hemorrhage As the uterus could no longer be drawn down by the use of forceps, he inserted, with curved needles, four traction sutures at the vaginal insertion, placed at an equal distance apart The needles and sutures were brought out through the cervical canal at a level corresponding with the internal os By gradual and careful traction upon the sutures, the lower segment of the uterus was brought down to near the vaginal outlet With Pott's fistula knife the carcinomatous cervix was then amputated The hemorrhage, which was quite profuse, was controlled by applying a sponge dusted over with a styptic powder The patient was convalescent four weeks after the operation The experience with this case led him to devise another method to enable him to render the uterus more accessible in cases in which the cervix was so much diseased that it could not be drawn down by the use of forceps or traction sutures This modification of his first procedure consisted in grasping the cervix with the fingers of one hand and pressure of the hand of an assistant upon the abdominal wall above the uterus, and removal of the cervix with curved scissors For the purpose of removing carcinomatous tissue from the cavity of the uterus he invented a curved chisel The application of Smellie's obstetric forceps, as an aid in performing vaginal hysterectomy, led to the invention of traction forceps by Museux and Récamier The reports of Osiander's attempts to remove the carcinomatous uterus through the vagina soon reached France, and his operative procedures were modified by Dupuytren, Lisfranc and other French surgeons

Dupuytren dragged the uterus toward the introitus vaginæ with tenaculum forceps and amputated the cervix with curved scissors Lisfranc exposed the cervix with the aid of a bivalve speculum, grasped it with his tenaculum forceps, removed the speculum and by gradual traction brought the diseased part within easy reach In the case of fungous growth he used the fingers of the left hand in making pressure against the blades of the forceps to prevent tearing The amputation was made with a curved bistoury guided by the fingers of the left hand

Hatin used a bivalve speculum and a traction forceps of his own invention, the teeth of which grasped the interior of the uterus as well as the external surface of the vaginal portion Forceps of a complicated structure for vaginal hysterectomy were also devised by Canella and Colombat The results of partial vaginal hysterectomy for carcinoma, as practiced by Osiander and his immediate followers, were as could be expected most discouraging Osiander's cases, twenty-three in number, died sooner or later after the operation The work of the French and Italian surgeons yielded no better results In all of the cases the diagnosis was made and the operations done long after the disease had passed beyond the limits of the parts removed A speedy local recurrence and death within a year after the operation were constant occurrences in all of the cases The local and regional dissemination of carcinoma of the uterus were not well known at that time and the operative procedure was usually limited to the part of the tumor and uterus which projected into the vagina

Dupuytren reported twenty-nine cases of vaginal removal of the carcinomatous cervix with fifteen deaths, but a later report by Pauly left only one recovery The unsatisfactory results of the operation induced Dupuytren later to abandon it almost entirely and to substitute for it the potential cautery The authenticated history of intentional complete extirpation of the uterus for carcinoma dates back to 1813 In 1810, Wrisberg discussed the propriety and feasibility of vaginal hysterectomy in a prize essay read before the Vienna Royal Academy of Medicine Two years later, Paletta removed the uterus through the vagina for carcinoma He did not intend to remove the entire uterus, and the fact that the entire organ had been removed only became apparent after the completion of the operation by a careful examination of the specimen removed

The first deliberate and well-planned vaginal hysterectomy for carcinoma was made in 1813 by J C M Langenbeck, of Gottingen, the uncle of the late distinguished surgeon B von Langenbeck The paper of Wrisberg and Paletta's case encouraged him to undertake this difficult task His patient was a Mrs Oberschein, 50 years of age, the mother of several children, with the general health but little impaired She had suffered for some time with a lancinating pain and a burning sensation in the region of the uterus The uterus had gradually descended toward the vaginal outlet The suffering became so severe that the patient begged for an operation Uterus prolapsed On examination the cervix was found of a stony hardness, nodular and ulcerated The cervical canal very vascular, ulcerated and from it escaped a bloody and exceedingly fetid discharge The irritating vaginal discharge had caused erosions of the external genital organs The ulceration of the cervical canal extended deeply into the cavity of the uterus Digital exploration of the cervical canal and uterine cavity revealed an ulcerated surface with great induration of the cervix and body of the uterus, and was followed by free hemorrhage Through the inverted vagina the uterus could be felt as a firm body which could also be distinctly felt by rectal examination As Langenbeck had no precedent to follow, he had to devise his own plan for the removal of the entire uterus upon which he had decided The operation was performed in the following manner the patient was placed with the pelvis upon the edge of the bed with the thighs separated and the feet resting upon two stools The operator properly seated between the thighs dissected the vagina from the cervix, the dissection was continued until the peritoneal envelope of the uterus was reached The dissection was made with special care not to open the peritoneal cavity by directing the edge of the knife against the uterus, and separating the tissues as far as this could be done with the handle of the scalpel To reach the fundus of the uterus, the broad and round ligaments and the Fallopian tubes had to be divided In his first report of this case he maintained that he removed both ovaries with the uterus, but from later information gained by examination of the specimen and repeated examinations of the patient, he corrected this statement Two round hard excrescences connected with the uterus gave rise to this wrong impression The last part of the operation consisted in the subperitoneal enucleation of the fundus of the uterus He had no one to assist him except a gouty surgeon who, when called upon to render much needed aid, could not rise from his chair Toward the end of the operation the hemorrhage became alarming, when the following conversation, occurred Langenbeck "*Herr, so humpeln Sie doch jetzt herbei*" Assistant "*Ich kann nicht*" With severe hemorrhage and approaching collapse of the patient and no one to assist him, prompt action on the part of the operator became a matter of urgent necessity With the left hand, Langenbeck grasped and compressed the bleeding part, and with the right hand he passed a needle armed with a ligature through the tissues behind the bleeding point Having only one hand at his disposal the ligature was tied by grasping one end between the teeth and the other with the right hand At this stage the patient appeared to be dying Dashing cold water over the face revived her The long wide vagina was now pushed in an upward direction by introducing the whole hand Above the vagina was a deep pocket, the walls of which were composed of the peritoneal investment of the uterus Vagina and peritoneal pouch were continuous with each other and no opening into the peritoneal cavity could be detected Through the peritoneum the intestinal coils could be distinctly felt To prevent the inversion of this peritoneal bag by pressure against it of the intestines, a sponge was inserted In spite of the critical condition of the patient at the close of the operation she made an uneventful recovery If we remember that this, the first complete vaginal extirpation of the carcinomatous uterus was made without an anesthetic, without assistance, and without the use of hemostatic forceps, we can easily conceive the difficulties which the operator encountered and grant him willingly the well merited and hard won honor of having established an important surgical operation Langenbeck's trials, however, only began at the completion of the operation Death of the patient would have brought him undeserved censure, her recovery excited the envy of his colleagues which followed him to his grave

The history of medicine and surgery is replete with similar incidents The originator of every marked improvement in medicine and surgery has, during his lifetime, received but little recognition for his labors on part of his colleagues Professional jealousy has always selected for its target the men conspicuous by their honest, unselfish work Langenbeck's report of his successful operation aroused doubt and a bitter criticism among his contemporaries Upon his return from Cassel, where the operation was performed, he visited his friend Osiander, and related to him the particulars of the operation Osiander doubted the possibility of complete removal of the uterus and adnexa without opening the peritoneal cavity, as was first claimed by Langenbeck, and said that he would advise all of his patients who desired to have the uterus enucleated to consult Langenbeck

Jorg doubted the veracity of the description of the operation Langenbeck invited his friends to examine the patient after her recovery The invitation was accepted by Mende and von Siebold Mende made the examination twelve years after the operation The patient was in perfect health at that time, and the most careful examination satisfied Mende that the entire uterus had been removed Von Siebold made the examination Oct 4, 1829 He indorsed the statements made by Mende in every respect The testimony furnished by his trusted friends did not succeed in allaying the suspicions of a doubtful profession Unfortunately the specimen was lost at the time of operation and could not, therefore, be utilized to verify and support Langenbeck's claims His assistant died soon after the operation, and his testimony was, therefore, not available to substantiate the operator's position Nothing was left for Langenbeck to do but to await patiently the opportunity to fortify himself by the results of a postmortem examination upon his patient The patient died of senile marasmus June 17, 1839, twenty-six years after the operation The post mortem was made by Dr Neuber in the presence of three other prominent physicians The bladder, rectum and vagina were removed together and placed in alcohol No adhesions were found in the abdominal cavity and no signs of recurrence in any part of the body The specimen is described in Max Langenbeck's dissertation, "*De totius uteri extirpatione*," Gottingen, 1812 The upper part of the vagina and the empty peritoneal pouch formed by the enucleation of the uterus were found inverted and formed a swelling in the vagina which reached as far as the labia majora Inspection of the peritoneal surface showed the Fallopian tubes, their cut ends terminating in the peritoneal pouch The inverted pouch appeared between rectum and bladder as a globular depression, the surface of which did not show signs of scar tissue anywhere Langenbeck places great stress on the peritoneal hernial protrusion, as a positive demonstration that the uterus was enucleated without opening the peritoneal cavity Both ovaries were found in their normal relations with the fimbriated extremities of the tubes The description of the operation as given by Langenbeck is corroborated by the results of the post-mortem, and the case will always remain in history as the first intentional complete vaginal extirpation of the uterus

The second complete extirpation of the uterus per vaginam was performed by Sauter Jan 28, 1822 Billroth and others have repeatedly wrongly quoted Sauter's name as the originator of the operation of vaginal hysterectomy when, as the records show, his operation was performed nine years later Sauter's case differs from Langenbeck's, in that the uterus was not prolapsed and the peritoneal cavity was freely opened during the operation The patient was 50 years of age, and the cervix was found extensively ulcerated Sauter intended to make an artificial prolapse, as suggested by Wenzel, by the employment of tenaculum forceps, and then remove the uterus by enucleation after the example of Langenbeck In the attempt to bring the uterus down with the curved index finger, the papillomatous excrescences broke off, which gave rise to considerable hemorrhage The vagina was now cut off from the cervix by a circular incision and another attempt made to bring the uterus down by traction forceps, one blade of which was inserted into the cervical canal and the other placed upon one side of the cervix Making in this manner strong traction upon the uterus, the attempt was made to separate the bladder from the uterus by the finger and handle of scalpel, but this did not succeed The piece of the cervix grasped with the forceps was torn off and after working for half an hour he concluded to remove the uterus in its position by the use of a curved scalpel Two fingers of the left hand served as a guide to the knife, and with it the uterus was detached from the bladder The whole hand was then inserted into the peritoneal cavity, and with it the fundus of the uterus was seized In the attempt to draw the uterus down, the intestines escaped and, after replacing them, a repetition of the same manipulation caused the same accident He finally succeeded in dragging the fundus of the uterus through the opening after which it was separated from the remaining attachments The intestines did not prolapse after the removal of the uterus, urine escaped involuntarily The opening contracted into a funnel-shaped space with the apex directed upward A few days later urine escaped through the vagina, showing that the bladder had been injured during the operation After closure of the peritoneal cavity the opening in the bladder was discovered The patient recovered from the immediate effects of the operation, but died on June 31 of the same year

The post-mortem showed that the peritoneal cavity was closed A large opening in the posterior wall of the bladder communicated with the vagina A number of limited intestinal adhesions, ovaries in their normal location, tubes indistinct

The experience with this case led Sauter to make the following suggestions horizontal position of the patient, complete evacuation of rectum and bladder Pressure by the hand of an assistant over the abdomen above the pubes in the direction of the pelvis Incision of vaginal vault between uterus and bladder with scalpel with a short convex blade Enlargement of this opening around the whole cervix with the same knife Section of the broad ligaments close to the uterus with curved scissors, guided by the fingers Separation of uterus from the rectum with curved scissors, at last, bringing down of the uterus with the whole hand and separation of remaining attachments

The third complete vaginal extirpation of the uterus was made by Elias von Siebold, April 19, 1823 The patient was 38 years old To prevent injury to the bladder, a catheter was inserted and held in place by an assistant The same assistant compressed the abdomen above the pubes in the direction of the pelvis The vaginal vault close to the cervix was incised with Savigny's fistula knife, first on the right side of the cervix, guided by the two fingers of the left hand The opening was then enlarged sufficiently for the introduction of a finger, after this, section of the vaginal insertion all around and close to the cervix, the broad ligaments were divided between two fingers close to the uterus with a small pair of polypus scissors The uterus was now detached on the right side To effect this also on the left side, two fingers of the right hand were inserted, and using them as a guide the opposite side was separated with Savigny's knife and Osiander's chisel A finger was now inserted into the cervix, and with another pressure made from without, whereupon the remaining attachments of the vaginal vault on the right side were torn and the uterus slipped from between the fingers The intestines could be felt, but did not prolapse The uterus was now so high that it could only be felt with the tips of the fingers Attempts to bring it down by the insertion of the assistant's fingers into the rectum and the use of Boer's excerebration forceps proved a failure The operator satisfied himself that the only way in which the uterus could be brought down would be by the insertion of the whole hand into the peritoneal cavity As the vaginal entrance was too narrow, the perineum was incised The opening in the vaginal vault had also to be enlarged, which was done with Savigny's knife The hand was now inserted, the fundus of the uterus grasped, and the organ drawn down into the vagina, after which the left broad ligament was divided in the same manner as on the opposite side Death sixty-five hours after the operation The post-mortem showed inflammation of the small intestines, fibrous exudations upon the peritoneal surfaces, rectum and bladder intact

The second case, operated upon after Sauter's method, was by Holscher Feb 5, 1824, a patient upon whom Prael had performed previously Osiander's operation The patient was placed in the dorsal horizontal position upon an obstetric chair As the uterus could not be brought down with the hand and a brass needle twelve inches in length, the carcinomatous cervix was excised in order to reach the fundus of the uterus more readily The vaginal vault and the broad ligaments were divided with an amputating knife, guided by two fingers, close to the uterus, first on one side, then on the other Death in less than twenty-four hours

Wolff operated according to Sauter's method May 5, 1824 The patient was 60 years of age and insane In this case the operation was greatly facilitated by complete prolapse of the carcinomatous uterus and inversion of the vagina The incision of the vaginal vault was first made in front, then on both sides The ligaments and tubes were then brought forward and divided some distance from the uterus, after which the uterus was separated from the rectum The wound was sutured and the inverted vagina replaced Death two days after operation

In 1830 Delpech combined vaginal with abdominal hysterectomy, being five years later than Langenbeck's first laparo-hysterectomy At the vaginal vault Delpech incised the tissues between the bladder and cervix with a knife of his own invention The separation of the loose connective tissue and the tearing of the peritoneum was done with the finger After enlarging the opening sufficiently to insert two fingers the abdomen was opened above the pubes by making first an oval skin flap, after which the linea alba and peritoneum were incised The operator then inserted a finger through the wound between uterus and bladder, which was used as a guide in dividing the broad ligaments, after which the uterus could be sufficiently mobilized from above to sever the remaining attachments safely

The fifth total extirpation of the uterus after Sauter was made by Elias von Siebold upon a patient 30 years of age July 25, 1825 He rendered the uterus more accessible prior to dividing the broad ligaments by passing a silver needle with a steel point armed with a strong thread through the cervix, using the thread as a guy rope The patient died two days after the operation

The sixth total vaginal hysterectomy for carcinoma was made by Langenbeck upon a servant, 28 years of age, August 5, 1825 As a preliminary step, the perineum was incised for the purpose of widening the vaginal opening sufficiently to permit the introduction of the whole hand to grasp the uterus before the division of the right broad ligament After placing the index finger of the left hand in the vaginal vault between the cervix and the rectum, it was utilized as a guide to Osiander's hysterotome, with which an incision was made into the pouch of Douglas This opening was dilated until the whole hand could be introduced with which the fundus was grasped, and pressed in a downward direction, placing the broad ligaments on the stretch After section of the right broad ligament, the uterus could be brought down beyond the rima pudendi, which made it easy to divide the remaining attachments He places great stress on opening the peritoneal cavity behind and not in front of the uterus, as by doing so the bladder is exposed to less risk of being injured He also insists that the large pelvic vessels should be protected by making the incisions close to the uterus As an additional safeguard to protect the bladder and the urethra, a catheter is held in proper position in the bladder by an assistant The hemorrhage was not severe After the completion of the operation a sponge was inserted into the vagina, and for the abdominal pain twenty leeches were applied without any material benefit following The patient died on the second day The post-mortem revealed that the small intestines in the pelvis were covered by coagulated blood and a plastic exudate

The seventh total vaginal extirpation of the uterus after Sauter was made by Recamier, July 26, 1829, which, according to Gendrin, was the first operation of this kind in France He modified Sauter's procedure only in so far that he ligated the uterine arteries in the lower part of the broad ligaments before dividing them higher up His patient was 50 years of age With two tenaculum forceps he gradually brought the carcinomatous cervix as far as the vulva The vagina in front of the cervix was incised with a probe pointed bistoury (convex), and with the index finger the loose connective tissue between bladder and cervix separated as far as the peritoneum The opening was enlarged with the bistoury sufficiently to enable him to insert two fingers, the peritoneal cavity being opened, the fundus of the uterus was grasped and the upper part of the broad ligaments was then divided one third from above downward, without causing much hemorrhage, after which between thumb and index finger the lower part of the broad ligament, first on the right, and afterward on the left side, was seized and with a curved tunneled needle armed with a ligature, the ligament was transfixed and tied, thus securing the uterine arteries The broad ligaments were then divided above the ligature The uterus could now be brought out of the vagina and its attachments with the rectum were easily separated The operation was completed in twenty minutes Complete healing of the wound twenty-seven days after operation

The eighth vaginal extirpation of the entire uterus was made by Langenbeck, August 18, 1829 This was his fourth complete extirpation of the uterus, and his third *per vaginam* It differed from his preceding cases in that the Douglas pouch was opened first and the uterus removed piecemeal to the fundus, which did not appear to be diseased Hemorrhage slight The patient recovered from the immediate effects of the operation, but died on the eleventh day Intestines reddened in places Only a small fragment of the fundus remained A rectal fistula with irregular margins was found as the immediate cause of the fatal peritonitis

The ninth complete vaginal removal of the uterus was performed by Roux, Sept 20, 1830 The patient was 50 years old and the method employed Récamier's Death soon after the operation The same surgeon performed his second operation five days later, following the same plan with a similar result

The eleventh vaginal extirpation of the uterus was performed by Recamier Jan 13, 1830, upon a woman 35 years of age At the completion of the operation the intestines escaped into the pelvis, they were reduced and the wound sutured The patient died on the second day from what was believed to be secondary hemorrhage from the internal spermatic artery

Blundell made the twelfth vaginal hysterectomy Oct 16, 1830 The woman was 47 years old Cervix much enlarged and ulcerated Patient's general health greatly impaired The uterus was exposed with the rectal speculum of Weiss, which was removed after grasping the cervix with tenaculum forceps After bringing the uterus well down into the vagina a second forceps was applied, and by an assistant making traction upon both of them the uterus was brought within easy reach An incision was made between the cervix and rectum with an ordinary scalpel, after which the opening was enlarged with a probe pointed bistoury The next step in the operation consisted in making a transverse incision in front of the cervix, separation of uterus from bladder, during which the latter was opened The fundus of the uterus was grasped with the hand, and into it was inserted a sharp hook, with which it was drawn in the direction of the vagina, after which both broad ligaments were severed Hot fomentations and thirty leeches relieved the abdominal pain A return of the pain was met by the application of twenty leeches Four weeks after the operation the patient was convalescent, but the vesico-vaginal fistula remained

Dubled suggested that after liberating the cervix by vaginal incision, and after bringing the uterus well down into the vagina by the employment of tenaculum forceps, the broad ligaments should be ligated without previous partial division, as was done by Récamier After this has been done the uterus is so freely movable that the diseased part can be readily excised He insisted that the operation should be limited to the removal of diseased tissue He carried this method into effect once, but his patient died twenty-four hours after the operation In 1839 Langenbeck performed a supravaginal amputation of the uterus for carcinoma The patient was 44 years old The cervix was grasped with two volsellum forceps, and by continued traction it was brought down to the vulva A circular incision around the cervix was made and the dissection carried upward extraperitoneally as far as the body of the uterus, where the amputation was made The patient made a good recovery, and at the time she left the hospital the wound was completely cicatrized

I have given you this brief outline of the early history of vaginal hysterectomy, to show the value of a retrospective view in these times of unrest in medicine and surgery In the laudable ambition to devise new operative procedures, the surgeons of the present day often ignore the work of our forefathers New operations are devised and described which were conceived and practiced, or, at least, recommended years ago Honesty and justice demand that credit should be given to whom it belongs From what I have said it is evident that the uterus has been removed through the vagina for inversion and prolapse for more than a century The credit for removing the carcinomatous cervix by the same route unquestionably belongs to Osiander This operation was later improved by M Langenbeck, who made, for the first time, the supravaginal amputation of the cervix for carcinoma in 1830, an operation which was later revived and popularized by Schroeder Langenbeck and Sauter were the pioneers in establishing vaginal hysterectomy for carcinoma Langenbeck enucleated the uterus in 1813 and his patient recovered and finally died of senile marasmus at the age of 84 Sauter removed the entire uterus *per vaginam* successfully in 1822 by an operation which, with some slight modifications, is practiced to-day Of the first twelve cases of complete vaginal hysterectomy, only three recovered, a mortality of 75 per cent Extraperitoneal enucleation of the uterus has recently been described as a new operation, but those conversant with the history of surgery will always link Langenbeck's name with the origin of this operation The great mortality which attended the first attempts to remove the uterus through the vagina were due to hemorrhage and infection The improved means and technique in prophylactic hemostasis and the introduction of aseptic surgery encouraged Czerny to revive and improve vaginal hysterectomy in 1878 Since that time the operation has been modified in various ways, and has now become an established procedure in the treatment of well selected cases of carcinoma of the uterus, but the honest student will always connect the early history of this operation with the names of Osiander, M Langenbeck and Sauter

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BRIGHT LIGHT IN THE SCHOOL ROOM A CAUSE OF MYOPIA, AND A METHOD PROPOSED FOR THE ESTIMATION OF THE QUANTITY OF LIGHT

Read in the Section on State Medicine, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7-10 1895

BY A G FIELD M D
DES MOINES, IOWA

The object of this paper is to ask attention, briefly, to the physiologic results of regular use of the eyes in bright light, and more especially to raise the question as to whether progressive myopia in school children is not attributable to a large extent to such use Also to propose a method of estimating the quantity of light in a given place or room with some approach, at least, to mathematical exactness

The prevalence of myopia among school children attracted the notice of observers more than thirty years ago Cohn examined the eyes of 10,000 school children and reported over 2 per cent myopic in the elementary departments, over 10 per cent myopic in the intermediate departments, more than 19 per cent myopic in the high schools, and more than 26 per cent myopic in the gymnasium The showing discloses an almost regular ratio of increase from the lower to the higher grades More recent statistics show an increase since that time of from 25 to 50 per cent in the number of myopic pupils in the higher German schools In other words, the longer school life continues, the larger is the percentage of myopia While Germany leads the world in the intensity and persistency of school work, as she does also in the percentage of myopics, the same conditions, though in a less degree, are shown by the statistics of every civilized people

Some country schools show as low as 5 per cent average including 1 per cent myopic in the elementary departments, but in all, the percentage increases rapidly with the continuance of school life The causes assigned are 1, bad air, 2, inheritance, 3, general debility, 4, unnatural posture, 5, use of eyes during partial congestion of the blood vessels of brain, and 6, the use of eyes upon fine print or upon objects in too near proximity Most of these causes are amenable to improvement to a greater or less degree and it is fair to assume that the suggestions presented have been acted upon in the sanitary management of schools We are, therefore, at this state of the inquiry confronted by two circumstances which stand out very conspicuously 1, the employment of measures suggested to remedy or diminish the prevalence of myopia, and 2, its progressive increase everywhere during school life

Cohn placed as first in the list of causes, "bad light,' meaning dim light and, as far as known, the same prominence has been given to that cause by all writers and teachers down to the present time As a matter of course, Cohn advised more light, and that advice has been followed in the construction of school houses He recommended one square foot of glass area to five of floor area, and he believed that if school houses should be constructed with a square foot of glass area to every square foot of floor area, that the benefits would be very marked The proportion of glass area to floor area in school houses in my own vicinity, in some cases is as high as one to five, and the intensity of the light in them is intolerable to many eyes if exposed to it for any considerable length of time without proper shading

Another cause of myopia named and universally admitted is the use of the eyes upon fine print or upon objects in too near proximity During a personal visitation to many of these schools a very common custom with scholars was observed—that of laying the book flat upon the desk for study with the face over it This position necessarily brings the eyes within from five to seven inches of the printed page, and I need not say that such position would meet with universal condemnation The use of the eyes in this position requires shortening of focus, by increasing the convexity of the crystalline lens by a prolonged contraction of the ciliary muscle, an elongation of the eyeball because of the change in the conjugate foci of the lens, in short, a strained condition of the whole accommodative apparatus of the eye—a condition of temporary myopia Practically the same thing happens to the eye when used in a bright light even upon distant objects, the immediate effect of which is to stimulate contraction of the pupil In contraction of the pupil, the marginal rays—those most refracted by the lens are cut off, in effect limiting the action of the lens to its central portion, and landing the image beyond the normal position or distance The posterior wall of the retina recedes by the action of the recti muscles to receive the image, the ball is elongated, and we have again induced or temporary myopia, just as we have in near or close vision

The fact is best illustrated by the action of the photographic lens of the rectilinear type, in which the front combination represents the cornea and anterior chamber of the eye, the posterior combination the crystalline lens and the posterior chamber, while the retina is also represented by the ground glass screen With a large stop, we focus upon a given object and move the screen until we have the image sharp upon it We, then without moving the object or screen, remove the large stop and substitute a small one We contract the light opening in the lens, just as the pupil of the eye is contracted in viewing small objects, using the eye in near vision, or by exposing it to a bright light We now observe the image upon the screen and find that the use of the small stop has moved the image—it is no longer sharp upon the screen, because it has receded, and we shall have to move the screen back to where the image is, to get a sharp view of it on the screen In other words, we must elongate the camera box, just as the recti muscles elongate the eye ball in myopia, to get a sharp image upon the retina The frequent or forced production of temporary myopia results in a condition, chronic and permanent, and too often progressive The remedy suggests itself, a thoroughly regulated and modulated light in the school room, a proper seating and frequent interchange of pupils with reference to light, and the substitution of charts and black-boards to the greatest possible extent for books, in the school room

The words bright, and dim, are used in this paper as substitutes for the more commonly used words "bad" and "good" as indicating a measure of light, and possibly they may be the better words But after all there is a vagueness in the meaning of such words which ill becomes a study that aims at, and demands, precision in terms used, as well as in methods and results At best, only comparative or relative degrees of intensity are expressed by such words I therefore propose a method of estimating with a very considerable degree of exactness the intensity or quantity of light, and not only of estimating it, but of recording it It is by the use of sensitized paper The sensitiveness of this paper depends upon the quantity of nitrate of silver contained in a given quantity of water in the bath The standard formula is sixty grains to the ounce of water Albuminized paper floated upon this bath and dried in the dark has a sensitiveness represented by two in the scale of a sensetometer We have in the paper an instrument at once certain in effect, uniform in action and convenient to employ The degree to which the paper is browned or darkened when exposed to a given light is a definite measure of the intensity of that light I have shades of brown each resulting from exposure of different pieces of the sensitized paper one hour on a bright day, in the light of rooms in which the proportion of glass area to floor area varied from 1 to 1, to 1 to 20 (Scale color slips omitted

By the application of this method to the determination of quantity of light in the school room, the teacher may know not only the average light value of her room, but of the various parts of it, and at various times of day on different days With such knowledge, she will be enabled to properly regulate the light by the use of suitable shades and also to seat her pupils in such parts of the room as are best adapted to individual needs and idiosyncrasies In placing the slips for the estimation of the light value of a room, the mean distance of the slips from the windows is to be taken as the distant line of the area estimated A scale similar to the one here presented should in all cases be provided for comparison in the use of such slips, and the degree of browning during one hour of exposure should range only from two to four of the scale This will represent a safe and yet sufficient light, except in special cases and for short periods of time The slips immersed in a combined toning and fixing bath for ten minutes and then rinsed in two or three changes of clean water become permanent

I desire it understood, however, that this paper is not for the purpose of establishing a standard of light, for school rooms, which can only be done after careful concerted observations and experiences, but to furnish a suggestion for the formulation of such standard Much might be said of the wide range in the diversity of school house architecture, and the imperative need for uniformity of construction upon the best and most thoroughly matured plans under State supervision, including general rules for lighting, heating and ventilating the same This, however, would be foreign to the scope and purpose of this paper, which seeks to draw attention to two points only

1 That the use of the eyes in bright light, so constantly recommended as prophylactic, as a matter of fact causes temporary myopia which if persisted in as a habit, or from necessity, soon becomes chronic and permanent as is shown in the history of school life everywhere

2 That the proper use of light as of heat and other natural agencies by the animal economy requires a means for its quantitative estimation This can be accomplished with a considerable degree of accuracy by the use of sensitized paper

THE GOLD IN GARBAGE

Read in the Section on State Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore- Md, May 7 10, 1895

BY DOUGLAS H STEWART, M D

NEW YORK

The quest of the Middle Ages was for the stone that would turn lead into gold, but the aim of the nineteenth century seems to be the transmutation of waste into wealth As a natural consequence, the elaborate and expensive utilization works of Europe, and the various processes of dealing with American garbage have been established

Everybody believes in the gold in a dust heap, but as yet it has not materialized In the light of practical experiment it seems quite as far from realization as the philosopher's stone—also once an object of universal belief There is not, to my knowledge, a single public municipal system that is run at a profit in the disposal of garbage, no matter what its promises on paper or in the theoretical stage have been Every system being subsidized—or costing in operating expenses from 7 cents a ton upward to a dollar or more Every practical test points directly to a loss, and the problem seems to present only one factor for solution, viz, "how to make this loss as small as possible" Roughly speaking, the attempts at extracting gold from garbage may be divided into four methods

1 The most wasteful, sea disposal
2 The most offensive, hog feeding or fertilization
3 The most economical to operate, reduction
4 The most sanitary and complete, cremation

There is still another method, proposed by an Englishman in the Leeds *Mercury* He seriously writes about his plan—of domesticating crocodiles in England, in order to have them eat up the garbage and refuse thrown into the rivers This is no more humorous than some of the schemes proposed for New York For instance, bear in mind, the simple sanitary fact that water transportation and sea disposal of garbage are unqualifiedly stupid and wasteful, and repeated handlings are unnecessary and costly

Our ex-Mayor appointed a committee of five to investigate and report on the garbage systems of the United States and England Let me call your attention to their report which is quite as humorous as the crocodile hatchery and just as seriously intended

1 They say "An intolerable nuisance is created at each garbage dump, from foul odors arising from the garbage, and from the winds blowing the lighter material about, and again, while towing to sea, the escape of a considerable proportion of the material to the defilement of the harbor

"2 Even with the most improved methods of loading, and the best character of boats, the practice of depositing the refuse at sea is reprehensible from every point of view

"3 We believe that this material could not be deposited at sea at a less distance than two hundred miles without contaminating the Long Island beaches.

"4 The commission was very reluctant to indorse any untried system"

You see, this is all very earnestly expressed, but here comes the humor After condemning dumps the commission suggests building new ones—instead of doing away with them altogether After condemning sea disposal, they provide for its continuance instead of its extinction After condemning boats, they say, let us build propellers After setting a two hundred-mile limit—some of them now talk fifty miles After expressing reluctance to indorse any untried system, they do indorse an untried experiment—the garbage propellers invented by one of their number In short, either the report does not bear out the facts or the facts do not bear out the findings I do not mean to attack the committee at all, but simply to give you an instance of how little we inconsistent islanders of Manhattan know of the scientific position of the age on the garbage problem And you may be surprised, but I can assure you that the report of the commission was received almost without comment and quite seriously

New York and Brooklyn still dump their ashes into the sea—and from dock to ocean the freight is very nearly $500,000 Occasionally the scows sink—thus in 1893 New York alone deposited eight boats and 2,557 cart loads of refuse, on the bottom of New York Bay There was a bill introduced into the Legislature calling for an appropriation for dredging out the harbor

It seems to be the fate of cities, located on islands, to become narrow and provincial in their ideas, and when once the conceit of having the "best in the world" is fairly fixed, their commercial position is on the wane Therefore New York and Brooklyn, to-day, have nothing to teach other cities on the garbage question, except possibly what to avoid The English cities show us the value of reductors Some of our own neighboring towns furnish evidence in cremation, and others are living monuments to the results of the pig-feeding and fertilizer plan—but New York and Brooklyn have the most expensive method of making carrion soup on our neighbors' beaches

Why there is not a perpetual injunction granted by the courts, I do not understand The details of the garbage disposal of New York can be expressed in three words nuisance, failure, and waste

We come now to the second method hoggery and fertilization The hogs are killed by the broken glass in household swill, and no farmer or gardener will put domestic garbage on his land more than once It is much cheaper for him to dig a large hole back of his house and bury his own household rubbish, as it is in no sense of the word fit for a fertilizer The popular belief is, that it is a rich and valuable manure, but ask your farmers what the average house production is worth per ton, and you will find, that, what everybody knows, is not so—in this case The cities that have filtered their swill through hogs and cattle are praying for relief, and this method may be compared to sea disposal thus less waste, more nuisance, and as great a failure

It is a long step from the pig-stye to the third method—reduction Perhaps one of the largest and best equipped of reductors is the Southampton This will work at a loss of 7 cents per ton, with cheap labor, great economy, and the utilization of every possible bit of rubbish The most popular of these machines in America seems to be the Merz

As far as odor is concerned, the Merz has not had a fair chance, because the cities operating it would insist on storing the garbage in open sheds around the plant itself Naturally, the neighborhood had the full benefit of the putrefaction There is no reason why the operation should not be perfectly odorless But in deriving gold from garbage this process is a dismal failure It requires a large sum of money to erect a plant One large enough for New York is estimated at nearly a million and a half of dollars The grease obtained has so little real value that in some places it does not pay to run the extractors In Paterson, N J, after the first Merz plant burned, the system was replaced with the extractors omitted The St Paul plant which was burned has never been rebuilt I am told that the Buffalo works are run at a profit—and yet I find the city paying an annual subsidy of $35,000 I am informed that the St Louis plant begins to pay, and I find the city paying $1 80 per ton for having the garbage disposed of I find so many complaints that it is feared that the machinery, costing $400,000, will have to be removed The plant pays 12 per cent, according to the builders, but the stock is selling at 60 Mr Frenzel, of ex-Mayor Gilroy's commission, estimates the profit of the utilization companies at $2 per ton—but there is something very strange about this, because I can not find a single municipal plant that pays The utilization plants of Providence and Cleveland promised much, and have failed utterly

The cremation furnaces can perform their work satisfactorily, with proper manipulation The Engle crematory at Des Moines, burns 145 cubic yards and a dead horse in twenty-four hours at an estimated cost of 10 cents a yard Those who are interested in the Merz process know that ten times, or even twenty times this sum, is not a high estimate for the work necessary to handle a ton through the various manipulations required

Now it is evident that if we can "Utilize," with as small an expenditure as cremation requires, with a minimum amount of handling, and turn it into a product which has a ready sale on the spot, thus saving the cost of transportation, then we shall go far toward obtaining the hidden wealth To do this, we must have, first, an odorless and economical furnace —one that has stood the test of long and continued experience preferred Instead of allowing the heat to escape at a great loss, convert it into steam Tests in England show an average temperature of 1 646 degrees in the garbage furnace—this is the result of actual measurement with the pyrometer The result of burning one pound of garbage is sufficient to evaporate one pound of water The steam produced is utilized to run machinery for various mechanical purposes, such as making card-board, etc The English people are obliged to be very economical, and the garbage shows a much smaller amount of carbohydrates and fats than ours Hence, it seems reasonable to take for granted that the production of steam may have a greater percentage to waste burned, in this country than over there In my search for an odorless furnace I met, among many, with the Rider, which has given satisfactory service to Allegheny and Pittsburg for about eight years Perhaps it is the simplest and cheapest of all A committee of investigation from Newport, R I, had the curiosity to inquire whether the odors came out of the chimney, and one of their number, Mr James A Eddy, in his letter just before me states "I went at once to the top of the stack and tested the matter, but there was no odor, gas, or offensive smell and I returned satisfied that the combustion was complete We were all satisfied, and recommended the adoption of this furnace to our city "

Then, to my surprise, I found the Duquesne tannery running four acres of machinery with one of these furnaces, burning tan bark, but, as well, offal of various kinds Their bills were $4,000 a year for coal before putting in the furnace and $100 a year after As to the ability of garbage to make steam, that has been proved, but I will just add an instance quoted from a letter from Dr Dunn, ex-President Pittsburg Board of Health He went to the tannery, found the boiler pressure at eighty pounds, he stopped the fuel and had charged into the furnace three tons of decayed melons, potatoes and fruit, two tons cow manure, ten barrels cesspool matter, and two tons butcher's offal In all about ten tons bad smelling material This was entirely consumed in two and one-half hours, with no reduction of power, without odor or smoke, and the gauge still registering eighty pounds After such a test, let us take for granted, that an odorless, steam making, garbage furnace is an accomplished fact

Now, if we can convert our garbage into power, we have something that will bring its price in large cities, everywhere and always Have the furnaces centrally located to decrease cost of hauling Steam rents in New York for from $50 to $100 a horse power per year Each furnace can readily make from 200 to 250 horse-power—day and night Thus each one has an earning capacity of $10,000 a year, on a supply of sixty tons of refuse a day

The cost of labor and fuel is easily covered by 25 cents per ton, or $15 a day, or $5,475 a year, leaving a net earning margin of $4,000 after deducting for repairs and emergencies Of course, all expenses would be lowered by using cinders for fuel—in practical operation

I always hesitate in giving facts and figures because they always bring to my mind Josh Billings' keen proverb 'Nothing will lie like figures except facts," or, as one medical man put it, in a city far away "The garbage disposal here is a political reduction method by which fibs, untruths and plain lies are reduced to statistics "

If we are to have public disposal, I can find nothing better than the plans given before the Academy of Medicine, in my address delivered two *days before* the report of the Mayor's commission Inventors have again and again shown to Mr Harold P Brown and myself, working plans of steam making garbage furnaces, the adoption of any one of which would eliminate scows and propellers, and save the city $1,000 a day in cutting off this single item of expense

The fuel value of New York garbage is largely in excess of that in European waste As Dr Thomas H Manley once said to me "Half of Vienna could live out of New York's ash barrels " In Austria, domestic economy is a stringent necessity, hence the constant presence of the vegetable can, the stale bread tin, the grease pot, and the soup kettle in the kitchen With our population, canned soup is often bought and the hydrocarbons go into the swill pail Here is a desperate evil, for it is an axiom of political economy that waste makes want Unfortunately, the law can not step in and force thrift upon our citizens Will domestic disposal of all garbage help us? It will help the city by doing away with the great expense of gathering and transportation, but, if the disposer is handy, will not our servants and our poor be more apt to put the drippings and grease into it, rather than take the trouble to fry out the fat for cooking purposes? Shall we not be saving the public purse at the expense of many private ones? The best way seems to be to keep the gold out of the garbage, rather than to attempt to get it out after it has been thrown in And for this reason I should suggest that the public schools for girls give two hours each week to kitchen economics, let them teach only theory out of some good practical common-sense book, and you may be quite sure most of the little scholars will prove missionaries and reformers of the doctrine of thrift in the next generation, and many of them will be able to save 5 cents out of every dollar earned by the head of the house Now, therefore, let us investigate the waste at its source—the cook It is absurd for us to tell that domestic to save albuminoids, carbohydrates, and fats, for she could not understand, but we can find out how she manages to waste them, and how they can be utilized

Albuminoid or nitrogenous pieces of bread, cold rice, cold corn-meal, cold potato, cold beans, oatmeal, hominy, sour milk, beets, squash, cabbage, turnips, onions, peas, parsley, asparagus, carrots—these are all "no good," and go into the swill pail first of all

Carbohydrates and fats meat, poultry and fish in bits, bones, fat, drippings, and pork and sausage fat, mutton tallow, vinegar and fruit syrups, jellies, preserves—all these are thrown away

Consult a good cook-book and see what this means bread can be used for puddings, for griddle cakes, for stuffing meat and fish It can be dried and powdered, serving the same culinary purposes as cracker dust Rice, cold corn-meal, cold potatoes, cold hominy can be made into griddle cakes, gems and muffins Sour milk makes doughnuts, gingerbread, pot cheese, and griddle cakes The green vegetables may be made into hash and into vegetable salads Meat, poultry, fish, and bones will make soups, gravies, and many made dishes, fat can be used for shortening bread and gingerbread Pork fat of all kinds is useful for frying purposes Tallow has many manifest applications The farmers use it from head to foot—from hair oil to boot grease—not forgetting chapped hands and soap grease The fruit skimmings and sweetened vinegar will take the place of wine in sauces Jelly and preserves will make puddings and pies

I should suggest a large printed card, hung over the range, for Bridget's information, and embodying the use of every scrap which she enjoys putting into the refuse heap, and have her live up to the directions You will reduce your garbage to such an extent that there will be little trouble in dealing with it, the effort to utilize it will not pay, and the burning of it will not be wasteful But your citizens will lose the nervous anxious worry, and be able to lay by a "little money for the rainy day " It seems much more reasonable to stop the entrance of gold into garbage than to spend much money to recover a portion of the waste

Since writing the above, the furnace invented by Mr A W Colwell has been tried in New York This consists of a steam-making crematory, and although it has been in operation but a short time, yet both from an economical and sanitary standpoint, it promises well We can not sell a pound of manure in this city, hence the large "paper" earnings given to this product by the "Reduction" people are plainly nonsense Garbage has fuel value only

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THE INFLUENCE OF ALCOHOL UPON URINARY TOXICITY, AND ITS RELATION TO THE MEDICAL USE OF ALCOHOL

Read in the Section on State Medicine, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md, May 7 10, 1895

BY J H KELLOGG, M D
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The biologic test for the urine, perfected by Bouchard, is a most important addition to our means of studying disease processes in the body and the effects of various infectious and toxic agents upon the animal organism Bouchard demonstrated what had previously been suspected, that urea is not the most important toxic agent of urine, although the most abundant excretory product His researches demonstrated the fact that urea is only very slightly toxic in character, and that it, in fact, serves a very important and useful rôle in the economy by stimulating renal activity, acting thus as a true physiologic diuretic The experiments of Bouchard and Rogers have shown very clearly that the urine contains more than half a dozen toxic agents, most of which are far more important in character than urea Urea is however, a useful measure of these agents under ordinary circumstances, that is, when the urine contains only the normal toxins, but, under unusual morbid conditions produced either artificially for experimental purposes, or naturally as the result of an infection of some sort, the quantitative determination of urea is no longer a reliable guide, in fact, it may give no suggestion in relation to grave morbid processes resulting in the formation of large quantities of toxic substances and a consequent condition of general toxemia The same is true with reference to the various other modes of examining urine in common use

The biologic test of the urine does not require a chemic examination of the urine, hence does not depend upon the chemic recognition, by reagents, of minute quantities of chemic substances, the reactions for which may be obscured by the presence of other known or unknown substances, but makes a direct determination, both quantitatively, and, to some extent qualitatively, respecting the toxic character of the urine in both normal and pathologic conditions

The following is the method the urine collected for a definite time, and if necessary, calculated for twenty four hours is carefully neutralized and then injected at the rate of 1 c c per second into the venous system of a rabbit which has previously been carefully weighed, the weight of the patient must also be known The exact quantity required to cause the death of the rabbit and the symptoms occasioned as the result of the injection are carefully noted The following are obtained directly or indirectly

1 The amount of urine required to kill a kilogram of rabbit

2 The number of kilograms of rabbit which might be killed by the total amount of urine produced in twenty four hours

3 The amount of rabbit which might be killed by the quantity of toxic substances produced in twenty-four hours by each kilogram of the patient The latter quantity is termed the urotoxic coefficient, and is represented normally by the fraction 44, that is, the quantity of urine produced in twenty-four hours by each kilogram of normal human being is capable of destroying the life of 44 kilogram of living being, consequently, if these substances were retained within the body by failure of the kidneys to eliminate them, death would result, approximately in about two and a half days Clinical observation with reference to the effects of complete suppression of the urinary function agree with the results of experimental study

I have employed the biologic test a very considerable number of times, some hundreds of times in all, and am fully satisfied with regard to its reliability and accuracy It is, indeed, a most remarkably delicate test of the condition of the system in general, and of the renal function in particular A few observations which I have made will serve to illustrate the value of these means of investigation In a case of tuberculosis the toxicity of the urine was found to be double the normal Among the most prominent symptoms occasioned by the injection, was a very great rise in temperature, the elevation in temperature amounting to over 3 degrees C In a considerable number of tests made, in which the urine of a patient suffering from typhoid fever was employed, the toxicity of the urine was found to be greatly increased in every instance, and occasioned a marked elevation of temperature In a case of intermittent fever of malarial origin, the urotoxic coefficient of 2 36 was found during the paroxysm, the coefficient of being 76 before, and 78 after This observation seems to show that during the paroxysm of malarial fever there is produced by the parasites of this disease a febrile substance to which the febrile action is due This subject the writer has considered at length elsewhere

One of the most interesting observations I have made was in a case of idiopathic epilepsy, the urine employed was collected while the patient was just recovering from a succession of epileptic seizures, having been in what is known as the epileptic state, or static epilepticus for nearly thirty-six hours The urine was found to be extremely toxic the degree of toxicity being three times the normal The rabbit died in convulsions which were distinctly epileptiform in character

The biologic test applied to the urine of pneumonia, erysipelas, scarlet fever, diphtheria, and all other infectious maladies shows a marked increase in the toxicity When the patient is doing well, that is, when the poison is being eliminated by the kidneys In pneumonia, for example, the toxicity of the urine may be considerably diminished during the first few days, but when the critical period is passed and favorable symptoms make their appearance the toxicity of the urine is found to be three or four times the normal

Delicate chemic investigations of the urine which have been made by Gauthier, Brieger, and others, have revealed the presence in the urine of definite organic compounds which possess characteristic toxic properties Chemic researches, when sufficiently refined and delicate thus agree with the biologic test, but the modes of investigation employed are too troublesome to be ordinarily used, hence the value of the biologic test

The above mentioned observations, and many others, having fully established my confidence in the biologic test as a reliable mode of investigation, I determined to make an experiment for the purpose of determining the influence of alcohol upon urinary toxicity The subject of the experiment was a healthy man of 30 years, weighing 66 kilos For fifty days prior to the experiment he had taken a carefully regulated diet and the urotoxic coefficient had remained very nearly uniform The urine carefully collected for the first eight hours after the administration of 8 ounces of brandy diluted with water, showed an enormous diminution in the urotoxic coefficient, which was, in fact, scarcely more than half the normal coefficient for the individual in question The urine collected for the second period of eight hours showed an increase of toxicity, and that for the third period of eight hours showed still further increase of toxicity, the coefficient having nearly returned to its normal standard

The bearing of the results of this experiment upon the use of alcohol in pneumonia, typhoid fever, erysipelas, cholera and other infectious disorders will be clearly seen In all the maladies named, and in nearly all other infectious diseases, which includes the greater number of acute maladies, the symptoms which give the patient the greatest inconvenience, and those which have a fatal termination, when such is the result, are directly attributable to the influence of the toxic substances generated within the system of the patient as the result of the presence of the specific microbes to which the disease owes its origin The activity of the liver in destroying these poisons, and of the kidney in eliminating them, are the physiologic processes which stand between the patient and death In a very grave case of infectious disease, without this destructive and eliminative activity the accumulation of poison within the system would quickly reach a fatal point The symptoms of the patient vary for better or worse just in relation to the augmentation or diminution of the quantity of toxic substances within the body

It is the recognition of this fact which has led to the recent general revival of hydrotherapy in the treatment of acute febrile disorders Water applied externally stimulates cutaneous elimination, and, employed freely internally by water drinking and the introduction of water in quantities into the colon to be retained for absorption, aids liver and kidney activity If the patient dies, it is because his liver and kidneys have failed to destroy and eliminate the poisons with sufficient rapidity to prevent their producing fatal mischief among the delicate mechanisms of the body

In view of these facts, is it not a pertinent question to ask how alcohol can be of service in the treatment of such disorders as pneumonia, typhoid fever, cholera, erysipelas and other infections, since it acts in such a decided and powerful manner in diminishing urinary toxicity,—in other words, in lessening the ability of the kidney to eliminate toxic substances? In infectious diseases of every sort, the body is struggling under the influence of toxic agents, the result of the action of microbes Alcohol is another toxic agent of precisely the same origin Like other toxins resulting from like processes of bacterial growth, its influence upon the human organism is unfriendly, it disturbs the vital processes, it disturbs every vital function, and, as we have shown, in a most marked degree diminishes the efficiency of the kidneys in the removal of the toxins which constitute the most active factor in the diseases named, and in others of analogous character If a patient is struggling under the influence of the pneumococcus, or Eberth's bacillus, Koch's cholera microbe, or the pus-producing germs which give rise to erysipelatous inflammation, his kidneys laboring to undo, so far as possible, the mischief done by the invading parasites, by eliminating the poisons formed by them, what good could possibly be accomplished by the administration of a drug, one of the characteristic effects of which is to diminish renal activity, thereby diminishing also the quantity of poisons eliminated through this channel? Is not such a course in the highest degree calculated to add fuel to the flame? Is it not placing obstacles in the way of the vital forces which are already hampered in their work by the powerfully toxic agents to the influence of which they are subjected?

In his address before the AMERICAN MEDICAL ASSOCIATION at Milwaukee, Dr Ernest Hart very aptly suggested in relation to the treatment of cholera the inutility of alcohol, basing his suggestion upon the fact that in a case of cholera the system of the patient is combating the specific poison which is the product of the microbe of this disease, and hence is not likely to be aided by the introduction of a poison produced by another microbe, namely, alcohol This logic seems very sound, and the facts, in relation to the influence of alcohol upon urinary toxicity or renal activity, which is elucidated by our experiment, fully sustain this observation of Dr Hart

It is also easy to show the important bearing of the fact to which we have called attention upon the relation of alcohol to chronic disease Alcohol is doubtless, at the present time, much less frequently prescribed as a remedy in chronic disease than a quarter of a century ago

In a recent number of the *British Medical Journal*, Dr Lauer Brunton, the eminent English physiologist and neurologist, in mentioning the fact that death from chloroform anesthesia rarely occurs in India, but is not infrequent in England, attributed the fact to the meat-eating habits of the English people, the natives of India being almost strictly vegetarian in diet, partly from force of circumstances doubtless, but largely also, no doubt as the result of their religious belief, the larger proportion of the population being more or less strict adherents to the doctrines of Buddha which strictly prohibit the use of flesh foods

The theory advanced by Dr Lauder Brunton in relation to death from chloroform poisoning, is that the patient does not die directly from the influence of chloroform upon the nerve centers, but that death is due to the influence of chloroform upon the kidneys, whereby the elimination of the ptomaines and leucomaines naturally produced within the body ceases, their destruction by the liver also ceasing, so that the system is suddenly overwhelmed by a great quantity of poison and succumbs to its influence, its power of resistance being lessened by the inhalation of the chloroform

The affinity between alcohol and chloroform is very great Both are anesthetic Both chloroform and alcohol are simply different compounds of the same radical, and the results of our experiment certainly suggest the same thought as that expressed by Dr Brunton How absurd, then, is the administration of alcohol in conditions in which the highest degree of kidney activity is required for the elimination of toxic agents

Another thought is suggested in this same connection, namely, the absurdity of injecting alcohol in a case of threatened death in chloroform anesthesia Notwithstanding the extensive use of alcohol for this purpose during many years, can any person testify that he has seen a single life saved by it? The evident danger of establishing the alcohol habit by such a use of the drug doubtless influences most intelligent physicians sufficiently to lead them to consider it better for the patient to forego any possible benefit which he might receive from the use of alcohol, rather than become a confirmed inebriate Nevertheless there are still many practitioners who recommend to certain classes of patients the habitual use of beer or wine or some other of the so-called light liquors with the idea that by their use nutrition may be improved, and appetite, digestion, or assimilation increased, or some good be accomplished in some way which no one has attempted to explain

In a certain proportion of these chronic cases there is a tendency to tissue degeneration Modern investigations have given good ground for the belief that these degenerations are the result of the influence of ptomaines, leucomaines, and other poisons produced within the body upon the tissues It is well known that many of these toxic agents, even in very small quantity give rise to degenerations of the kidney It is this fact which explains the occurrence of nephritis in connection with diphtheria, scarlet fever, and other infectious maladies Dana has called attention to the probable rôle played by ptomaines produced in the alimentary canal in the development of organic disease of the central nervous system

It is thus apparent that the integrity of the renal functions is a matter of as great importance in chronic as in acute disease, hence any agent which diminishes the efficiency of these organs in ridding the system of poisons, either those normally and regularly produced, or those of an accidental or unusual character must be pernicious and dangerous in use

In conclusion, I desire to say that this paper is not claimed to be an exhaustive study of the subject presented, but simply a preliminary report of a work which I have begun, and which I hope to continue in the same line, with the expectation of securing still other interesting and valuable results

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A Retort a la Puffendorf —Swell of the Period " Oh! doctor, I have sent for you, certainly, still I must confess I have not the slightest faith in modern medical science "

Doctor " Oh! that doesn't matter in the least You see, a mule has no faith in the veterinary surgeon, and yet he cures him all the same "—*Tagliche Rundschau*

THE TREATMENT OF TYPHOID FEVER WITHOUT ALCOHOL

Read in the Section on State Medicine at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore Md May 7-10 1895

BY W H RILEY, M D

BATTLE CREEK MICH

The purpose of the present paper is to give, briefly, an outline of the method of treatment of typhoid fever as used by *the writer in a considerable number* of cases

A consideration of the pathology of this disease does not properly come under this head, but we wish simply to call attention to the well known fact that typhoid fever is a germ disease The germ which causes this fever has been generally supposed to be the bacillus of Eberth More recent bacteriologic studies rather indicate that the bacillus coli may also cause the disease These germs are usually carried into the body in food or drink, and lodging in the small intestines begin to grow and multiply, and by their life produce poisonous ptomaines which are absorbed and carried by the circulation to all the organs and tissues of the body It is these ptomaines thus carried to all parts of the body that are largely the immediate cause of the pyrexia and attending symptoms The organisms which produce these poisons for the most part remain in the intestines, although they have also been found in the spleen

The indications for treatment are

1 To remove or destroy the cause (to eliminate the germs and ptomaines from the body)

2 To sustain the vital and resisting powers of the patient

If the patient is seen early in the disease, it has been my practice to immediately put him to bed and give a free dose of magnesium sulphate This is preferably given in the morning or forenoon, and may be repeated once or twice on successive days Beside this the patient should have a large enema of water at a temperature of from 75 to 80 degrees Fah and this may be repeated daily, or even oftener, for some time, if necessary, to keep the bowels empty of poisonous substances

The salines and enemas thus used, carry out bodily a large number of germs and ptomaines that are present in the intestines, and further, the salines, by producing an increased secretion of the mucous membrane of the intestines, tend to disentangle and set free many of the germs that have found a lodging place in the walls of the intestines

For the elimination of the ptomaines which have been absorbed into circulation and carried to the tissues, nothing is better than the internal use of water From three to five pints should be drunk during every twenty-four hours It should be taken in small quantities, six to eight ounces every hour or two during waking hours, except when food is taken We will refer to this point more in detail later

A consideration of the general care of the patient properly comes under the second head of the indications for treatment as given above The patient should be put to bed in a large, light, well-ventilated room At least two sides of the room should communicate directly by windows with out-of-doors, in order that the room may be properly ventilated, All unnecessary articles of furniture, such as carpets, couches, upholstered chairs, pictures, etc, should be removed

The room should be thoroughly cleaned before the patient is put in it There should be two beds in the room for the use of the patient These should be preferably narrow, and so placed in the room that there is a free approach to both sides of the bed, for the convenience of the nurse in giving treatment Iron bedsteads are preferable to wooden The bedding should be firm, yet soft and smoothly drawn There should be just sufficient covering to protect the body *The patient should be changed from one bed* to the other daily This may be done by placing the two beds side by side and carefully moving the patient from one to the other The sheets on the bed from which the patient has been taken should be washed and disinfected at each change of the beds, and all other bedding should be thoroughly aired and exposed to the sunlight

The patient should have the care of a thoroughly educated, careful and competent nurse, one who understands perfectly the various methods of using water in the treatment of fevers

There is no other single remedy that I consider so valuable in the treatment of fever as the internal use of water As above stated, the patient should drink six or eight ounces every hour during the waking hours, except for about two hours after food is taken The water should be thoroughly sterilized, and as a rule may be taken either cool or hot Ice water is objectionable Hot water is often preferable This is a simple remedy, but nevertheless is efficacious It should be given to the patient whether he calls for it or not, and should be considered an important part of his treatment When water is taken into the stomach and absorbed into the circulation, it throws into solution the ptomaines which have been absorbed from the intestines and are present in the circulation and tissues, and thereby puts them in a favorable condition for elimination It increases the activity of the kidneys, and thus hastens and increases elimination of the poisons in the system

In the early stage of the fever, when the pulse is full and the action of the heart increased, it is best to give the patient cool water Later in the disease, when the action of the heart is weak and the patient feeble, it is best to give the water hot

Winternitz, many years ago, demonstrated that hot water taken into the stomach acted as a cardiac stimulant, and the increased heart's action is immediate, or at least before the water has time to absorb, which indicates that the hot water in the stomach acts reflexly as a cardiac stimulant The water after absorption also increases the circulation by filling the blood vessels and increasing arterial pressure The writer has frequently noticed a decided increase in the fullness and rapidity of the pulse after a patient has drank a glassful of hot water

The external use of water also forms an important part of the treatment The patient should be sponged off with tepid water every hour or two when the temperature is 103 degrees or above When the temperature is less than this, it is not necessary to sponge the body so frequently Sometimes a hot sponge bath is more efficacious in reducing the temperature than the tepid or cool bath The sponge bath reduces the temperature, relieves many of the distressing nervous symptoms, is refreshing to the patient, and promotes sleep The temperature of the body may also be reduced by the use of cool compresses placed over the abdomen and changed frequently

The matter of diet is an important factor in the treatment of typhoid fever The diet should be aseptic, easily digested, and should contain the necessary food elements Probably no one article of diet meets all these requirements as well as sterilized milk The patient should take from two to three pints daily The milk is best taken four times during the day at intervals of four hours, taking eight to ten ounces at a time Should the patient become tired of the milk, gluten gruel may be substituted at times for the milk A new preparation known as malted gluten, manufactured by the Sanitarium Health Food Company, Battle Creek, Mich , would probably be preferable to gluten, as it is more soluble, and consequently more readily assimilated

The diarrhea and bowel symptoms, when present, may be relieved by the application of hot fomentations to the abdomen, warm or hot enemas, and 20 grains of subnitrate of bismuth given every four hours

The patient should be kept as quiet as possible, and should be turned in bed at intervals, to prevent hypostatic congestion and the formation of bed-sores The bony prominences which are apt to become eroded should be sponged frequently with a solution of tannic acid in equal parts of alcohol and water, a drachm of the tannic acid to a pint of alcohol and water is about the proper strength to use

By the methods outlined above, that is, by the free use of water internally and externally, by keeping the intestines thoroughly emptied of poisonous material, by the free and frequent use of enemas, by proper feeding and careful attention of a good nurse to the patient and his surroundings, the duration of the fever may be shortened, and the severity of the disease lessened, heart failure and other complications will seldom occur, and the patient will in nearly every instance make a good recovery

The best method to pursue to prevent heart failure is to keep the poisons which are generated in the bowels and absorbed into the body, and which are the direct cause of the heart failure, eliminated from the body Should the heart become weak, it may be effectually stimulated by giving hot water to drink, applying heat to the heart in the form of a fomentation, and the application of fomentations to the upper spine

In the treatment of a large number of cases of typhoid fever, extending over several years' practice, the writer has never made use of alcohol internally to support the action of the heart or for any other purpose

The number of cases of death from typhoid fever coming under the writer's observation, where the method of treatment pursued has been similar to that indicated above, have been very few, and a much smaller per cent than in practice where alcohol has been used as a "cardiac stimulant " The writer believes that the use of alcohol in the treatment of typhoid fever is not only useless, but absolutely harmful

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More Oysters Called for in Chicago —The poet, or song writer on the staff of the Chicago *Tribune* is manifestly and urgently observant of the fact that oysters may be eaten in September, he says

"The oyster now is on our shore, Maryland, my Maryland
Li tum-ti-tum-ti as before, Maryland, my Maryland Ritooral
looral o'er and o'er, tra la la-la abundant store, hi
umpty bumpty send some more, Maryland, my Maryland"

REPORT OF THE TREATMENT OF SIX GRAVE CASES OF TYPHOID FEVER WITHOUT ALCOHOL

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md , May 7-10, 1895

BY KATE LINDSAY, M D

BATTLE CREEK, MICH

The use of any remedy empirically declines always in proportion to increased knowledge of facts and the approach to exactness in medical science in all its branches When the treatment of disease consisted almost entirely of a medication of symptoms and no fixed rules or indications regulated the giving of drugs, many remedies were used because of precedent and without any other virtue to recommend them for the cure of disease At the present, when rational ideas about the causes, course, and all other phenomena of disease are found, collected and classified from actual knowledge of these subjects, and the progressive medical mind is not satisfied with the therapeutics of the past, many remedies and methods of treatment, some of them very popular, have been superseded by other and more rational methods of dealing with disease Preventive medicine has come to the front in many departments of healing, notably in surgery, obstetrics, and the stamping out of many contagious diseases, until we know just what result may be expected from a given, proven line of treatment No surgeon of to day would be satisfied with what made glad the hearts of the surgeons of thirty or less years ago When the house surgeons reported a wound discharging laudable pus freely, it was taken as an evidence that all was well with the patient, and very satisfactory to physicians and nurses To day a ward full of laudable pus discharging wounds would be a signal for sanitary investigation, and an inquiry as to who had sinned, the physician or nurses What has been the violation of the law of surgical cleanliness in the matter of the preparation for the operation and the dressing of the wound? What, or who was unclean? Patient, attendants, instruments, air, or operating room or ward? And the signal also for a thorough cleansing and disinfecting of everything, and increased care and cleanliness to prevent further extension of the wound infection is indicated

About a quarter of a century ago the visiting obstetrician of the obstetrical ward of a large city hospital directed the house physician in a case of puerperal septicema to give hypodermic injections of morphin until the patient was narcotized within an inch of her life, which inch slipped away within forty-eight hours, notwithstanding the house physician's faithfulness for the uterus and adnexa were exhibited to the students within that time The uterine mucous necrosed in spots, shreds of decaying membranes and clots of blood all told the story of a toxic center from which floods of ptomaines and other morbid elements passed by way of the absorbents and blood currents to evey part of the body, completely stopping all assimilation and arresting all functional activity To day a similar case would be treated by curetting, flushing and disinfecting, like any other abscess, getting rid of the morbid matter and microbes, and with them the heart failure and other dangerous symptoms for which the heroic doses of morphin or alcohol were given

Now, latest investigations of the bacteriology of typhoid fever indicate that during the first ten or fifteen days, typhoid bacilli are found in blood and excretions, later streptococci predominate, causing the pyrexia of the second, third and fourth weeks the critical period usually in a typhoid fever case the time when some authors consider alcohol the principal resource of the physician for impending heart failure (See Osler's "Practice of Medicine," page 38)

Now to do away with the necessity for the use of this very objectionable drug we have to locate the toxic centers, as in the case of the septic wound and uterus, and devise some safe method of cleansing and disinfecting it, to be as successful as a physician as the surgeon of to day, in preventing this secondary infection, or of lessening the amount and formation of toxins to that extent that the bodily vital energies will not be overpowered in the conflict with them The chief toxic center is evidently the intestinal tract, especially the termination of the ileum The ulceration, necrosis, perforation and hemorrhage, are most frequently found in the last twelve inches of the small intestines, and may extend into the large intestines The ulcerated surface and open vessels increase the facility for the poison to find an easy entrance into the structures of the body The microbes, blood clots, necrosed tissue, and pus furnishing abundant supply of toxic matter which, saturating the system, overpower and stop the activity of the functions of all the organs of the body, causing degeneration of tissues, and death is said to take place from heart, lung, or brain failure, when the failure involves every other organ as well

Regarding the intestinal tract as any other abscess at this time the physician should seek for methods of treatment or remedies which will remove the morbid matter and destroy, or at least inhibit their action, thus decrease the fever and stimulate the circulation Secondary toxic centers often develop in the course of this disease, notably in the glands, lungs and depending organs The hypostatic congestion resulting from lying in one position causing stasis of blood, death and necrosis of tissues, both of the external and internal organs All vessels connected with the dying tissues carrying toxins to other parts of the body, fermenting food in the stomach and bowels, suppurating glands, phlebitis of the femoral veins, are all examples of this secondary infection, and are accountable for the heart failure and collapses so often fatal during the second, third and fourth weeks of typhoid fever The six cases I now report will be illustrations of the good effect of rational measures to prevent and meet these complications It is not said to be the best that may be discovered in the near future, but better than the mere empirical administration of any narcotic or other drug, the action and therapeutic value of which is so much disputed as alcohol at the present time It also indicates a line of clinical experimentation in the line of intestinal antisepsis, and cleansing and elimination of the alimentary tract, also means to avoid and overcome the blood stasis and death of tissue in the weak dependent organs of the body, liable to stagnation from obstruction or position The old idea that in peristaltic action lay the great danger of increase of the hemorrhage and perforation of the bowels is giving way to the more rational view that gaseous distension and septic absorption are what bring about fatal results from these complications, and that the moderate peristalsis of the intestinal walls lessens these dangers by closing the gaping ends of the injured vessels and expelling the septic matter and foul gases To meet these indications I have found lavage of the bowels, even during hemorrhage, with water of 105 to 110 degrees, or even hotter, given in moderate quantity of from one pint to three, to give great relief by freeing the large intestines of blood clots, fecal matter and other morbid matter, and also increasing peristaltic action in the small intestines, favoring the expulsion of gas, the heat stimulating the circulation in the peripheral vessels of the intestines, and overcoming the tendency to blood stasis

Ice bags alternated with fomentations were used over the abdomen externally, and heat, or hot and cold to spine The extremities were kept warm From 10 to 30 minims of turpentine in an ounce of gum acacia or starch water *increased the efficiency* of the enemas and aided in expelling the gas and checking hemorrhage

The tendency to hypostatic congestion and bedsores was prevented by frequent change of position and the use of hot and cold to spine, by fomentations and compresses to spine, or better still, hot fine spraying, or alternate hot and cold spray In one grave case, spraying was kept up for about twelve hours with only short intermissions The heart was stimulated by heat over it, whenever depression and collapse threatened From a series of 120 cases of continued fever lasting three weeks and over, not influenced in any way by quinin, the six cases reported below were selected from fifteen very grave cases These six reached the extremely critical condition

Case 1—A C, age 26, nurse, supposed to have contracted the disease from a 2 year old child she was nursing Temperature taken when she went to bed, Dec 12, 1887, 103 degrees, 6 A M Had been feeling indisposed for about a week, with slight and increasing evening temperature and some chilly sensations, but no well-defined chill From that date until December 24, temperature ranged very steadily between 104 degrees P M and 103 degrees A M with two or three exceptions, where it rose evenings to 105 degrees, and mornings fell for a short time to 101 5 degrees F The 20th and 21st there was moderate hemorrhage from bowels, checked by ice to abdomen and heat to spine, and astringent enemas of moderate temperature were given December 22, one half pint of blood passed, also at 9 A M and 4 P M, 7 P M to 10 P M about a pint of blood clots passed Patient now began to have marked symptoms of heart failure and indication of hypostatic congestion and bed sores Enemas were now given frequently of a higher temperature, and the hot applications made to spine and over abdomen The gaseous distension was finally overcome, and with the removal of the distension and improved heart action and circulation in all parts of the body, the patient's condition began to improve, although she continued to be indifferent to her surroundings and passed all discharges in bed until December 31, when temperature was normal for the first time, and never reached 101 degrees A very slow but steady convalescence followed, until Jan 18 1888 when unwise friends gave her a full meal of meat, rice pudding, and other hearty food for dinner, causing a severe pain in bowels and stomach, vomiting and purging, and an attack of acute gastritis ensued Temperature rose from 98 2 degrees A M to 103 degrees 6 P M the same day It ranged between 100 degrees morning and 103 degrees until January 27, at that date it reached the normal temperature morning, and evening kept below 102 degrees February 1 patient was discharged from treatment For several days patient was nourished by nutrient enemata during relapse Never reached the danger line, as during the ulcerative stage of the fever

Case 2—C F, young man, age 24, also nurse, contracted fever from a patient he was nursing Had been feeling unwell for about two weeks, but did not wish to give up, as he wanted to attend college during the winter Had had a rise of temperature ten days when he took to bed with fever 104 degrees Had hoped the fever was malaria, and tried to keep it off with antiperiods Soon after going to bed the ocher-colored discharges and bloating tympanitis and muttering delirium of typhoid were well marked Temperature followed the regular typhoid curve of 104 degrees P M and 103 degrees A M Middle of second week several severe hemorrhages occurred Patient's condition became critical, but after free lavage of the bowels and the removal of a great amount of blood clots, sloughs, and other morbid matter his condition began to improve Unfortunately a new nurse took charge of the case at this time, and fearful of producing another hemorrhage, allowed patient to remain on back for about twelve hours without change of position, when the hardening of the tissues over the hip bones and shoulder blades showed that there were extensive areas of dead tissue, and the patient's condition once more became critical from absorption and hypostatic congestion of lungs, spine and all depending organs It was at this time the twelve-hour-long spray was given Respiration became very rapid at this time, also pulse rapid and feeble Under the spray they improved, but the respiration continued 40 and above for about a week Extensive sloughing of the indurated tissues took place, but under the continued stimulating effect of the spray and antiseptic treatment, healthy granulations soon began to form and the patient recovered, the fever lasting from Dec 18, 1887, the day he took to bed, until March 1, 1888 When he finally recovered there was extensive atrophy of voluntary muscles, involving the adductors of thumbs and of thighs especially These muscles were never completely restored, either in size or function

Case 3—Miss E P, college student, age 20, came into the boarding hall of college at opening of college year, middle of September, 1888 Felt tired and unable to begin her studies when the college course opened, but thought by resting a few days would be better At the end of a week the college preceptress became anxious about her and brought her to a physician, who had her temperature taken and found it 103 degrees The most distressing symptom at this time was an intense continuous headache, frontal and occipital, which was relieved neither by bromid, antifebrin, antipyrin, or hot and cold applications It finally abated somewhat under the use of ice and galvanism Opiates seemed to aggravate The temperature course was about the same as the other two cases reported Tympanitis, diarrhea, rash, and sloughing of Peyer's patches ensued The hemorrhage was slight, but gaseous distension was very marked and required frequent enemata and mild salines with salol bismuth, and other eliminative and antiseptic measures to keep the patient at all comfortable There was great nervous prostration and a tendency to hypostatic congestion, causing labored breathing and a quick, feeble pulse The applications of hot and cold to spine were often the only thing which procured her any rest After these treatments she would sleep for from one to four hours There was always great tenderness of scalp and tendency of the head to draw backward After a very critical week, the fourth of her illness since taking to bed, all the symptoms seemed to improve, and for about ten days pulse became strong, about 85 to 90, temperature near the normal line, appetite improved, and discharges from bowels became more normal, only head symptoms remained, and she had delusions of having threads or splinters in her throat One morning in the middle of the sixth week of her illness she asked her nurse for the bed pan The nurse went to the closet to get it when the patient screamed out "O, nurse, come quick, quick!" When the nurse got to her she was unconscious, face flushed and livid, complete paralysis of all the muscles of the body, and every evidence of rupture of blood vessels in the brain, and the formation of an extensive clot She died of brain failure and compression in twenty-eight hours, being the only fatal case of the series

Case 4—Miss C D, age 22, dressmaker, called at my office Oct 12, 1888, about noon Complained of feeling badly for about ten days Had chilly feeling in the morning, felt hot and feverish at night, no sweating, nose bled freely Took temperature, found it 104 degrees F Had not sought any medical advice before She was put to bed and treatment to reduce the fever began at once Her case pursued a course very similar to No 1 The free hemorrhage from bowels with evidence of secondary infection and heart failure, and to meet these indications treatment was the same, save there was no relapse Was discharged with normal temperature Dec 9, 1888

Case 5—A S, a young girl, age 12 Very frail, orphan, parents both died young, but cause not known Patient had complained of feeling unwell for a number of days On Oct 21, 1894, physician first called to see her Temperature found to be 104 degrees As she was reported to have had a chill early in the morning of that day and also two days before to have had chill, fever and sweating she was given a cathartic, warm bath and 12 grains of quinin in divided doses of three grains each This treatment was continued three days without any influence on the fever whatever, which followed the regular course of evening rise to 104 degrees and morning decline to 102 5 degrees, though sometimes it rose to 106 degrees for a short time Was very nervous October 26, had a moderate hemorrhage from bowels, suffered greatly from distension and gas Hemorrhages repeated the 27th, gas still very troublesome, abdomen hard, grasped throat and struggled for breath, heart's action bad, pulse quick, weak, irregular Turpentine was now added to the enemas 15 minims to a pint of water This relieved the bowels of the gas, and a large amount of blood clots, fecal matter and sloughs, when patient became much more quiet There was at this time the formation of small bed-sores, but under hot and cold sprays they soon healed Heart when weak was stimulated by heat and electricity The other complications were purulent otitis media of left ear, on eighteenth day with exacerbation of temperature from 99 to 106 degrees in a few hours, with free discharge of pus from ear, and disinfecting, recovery from this was complete But the fever was prolonged, a series of boils keeping up a moderate rise of 100 to 101 degrees until Dec 10, 1894, when patient was discharged with normal temperature, and improving rapidly

Case 6—Miss E R, age 41, school teacher Seen first Oct 16, 1894 Seemed in a dazed condition mentally Had been out walking, started at 9 A M and became confused Remembered going into a colored church, did not remember coming out When she came to consciousness found herself in the house of a friend This lady stated that at 1 P M she came into her house, looked and acted strangely not seeming to recognize any one, but asked if she might lie down on a couch and rest Fell asleep and did not waken until 3 P M, when she seemed more rational, but was surprised to find herself in her present surroundings, and as to how she got there Returned to her boarding place looking so ill that a physician was called It was then learned from a friend that she had been having diarrhea for two weeks, with fever every evening Evidently a case of walking typhoid fever The fever in this case was never high, seldom above 103 degrees F, ranged from that to 101 degrees on a few occasions The principal feature was the disturbance of the sensation Soon after taking to bed, passed discharges from bowels and bladder involuntarily, was not unconscious, but had many delusions, one that continued after she first suffered from it a number of days, the result of a complication She imagined she was in bed with a corpse which always lay on her right side This began October 29 and nurse at that time in report describes eyes as glassy and patient very delirious A thorough physical examination of right side revealed a tumor under lower border of short ribs about the size of an orange This continued to increase in size and to grow downward Whole right side became edematous, and there was every evidence of a deep abscess, though exact location could not be made out Patient was now very critical, and to complicate matters hemorrhage from the bowels, free, but not in quantities to be dangerous of itself The usual gaseous distension and sloughing of Peyer's patches, and a complete inability of the stomach to retain food or even water These complications were treated by lavage of bowels with the turpentine enemata Lavage of the stomach was also given, resulting in the removal of a great amount of dark green matter Patient could then retain a small amount of malted milk, the first nourishment by stomach for three days But her case was now very critical, and the propriety of an operation was considered The urine had been examined from time to time with nothing special but changes due to tissue waste from the fever Now it contained pus, albumin, and blood corpuscles in great amount The pus found, described in urinary reports, as in balls and bunches, and by the nurse a sediment, stated to be a quarter of an inch thick on bottom of bed pan, evidently the abscess had opened either into a ureter or the bladder This relieved the profound nervous depression which seemed to threaten the patient's life Respiration during the rapid filling of abscess became slow and labored, often not more than eight to ten a minute Pulse also was slow and weak, in fact, never was 90 all through the fever which was peculiar to this case, as in all the other cases pulse was 120 to 140 and 160 during critical periods, but in this case at critical stage it went down to 65 and 70, very compressible, and almost imperceptible, with free discharge from abscess, which continued in the amount of two to four ounces a day, as measured in the bottom of a glass jar, from Nov 5 until Nov 24, 1894, when it began to be less in amount, soon became intermittent and finally ceased altogether after December 3 Convalescence was slow, and patient has not fully recovered yet, April 30, 1895, but has gained her usual weight, 140 pounds There seems to be no evidence of any return of abscess

This patient was stimulated during stage of depression, as the others, by endeavoring to keep up the heart's action and stimulate the action of the peripheral vessels by applications of both heat and cold alternating, a hot fomentation of ten minutes followed by the short application of an ice bag, or two douche pails, one full of water 120 degrees and the other 32 to 60 degrees used alternately for a minute or two each Sometimes a continuous hot spray was most soothing, sometimes one of 80 degrees At the same time every effort was made to discover and cleanse, if possible, the toxic centers Careful dieting and experiments with fluid foods, often malted or peptonized and the use of cold water treatment to reduce temperature when high, and other remedial measures in common use were applied, save narcotics and alcoholic stimulants Knowing fully that there is much yet to learn in medicine, and knowing also that but few men, even of reputation in the profession, have faith for that future when the prevention and treatment of disease by the physician shall bring as certain results as the surgeon now expects, I will close, trusting that I have at least indicated the direction that investigations and experiments should be made if we can ever expect to successfully do away with the use of alcohol in the treatment of disease—do away with the need of this, and other harmful drugs, by substituting more rational and successful methods of treatment

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SHOULD ALCOHOL BE USED IN THE TREATMENT OF DISEASE?

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7-10 1895

BY H D DIDAMA, M D

SYRACUSE N Y

[ABSTRACT]

After showing that 1, alcohol is not a food, 2, does not promote digestion, 3, does cause gastric disturbances, 4, alcohol does not increase muscular strength nor promote physical or mental endurance, Dr Didama continued

Observation in by gone days and accurate recent experiments seem to establish these statements beyond successful contradiction

It is true that, from the time when the patriarch Noah indulged in the fermented juice of grapes which grew in his own vineyard, down to the latest newspaper advertisement, tradition has claimed that wine—alcoholic wine—not only makes glad the heart of man, but gives strength to the weary and heavy-laden, endurance to the sons of toil, consolation and joy to the broken-hearted, and brilliancy to the sluggish intellect But the testimony of army officers, of insurance companies, railroad corporations, Arctic explorers, and even football and other fighters, is practically unanimous that total abstainers bear extremes of heat and cold, sharp conflicts, long marches, exposures to storms and malaria and infection better, and recover from fatigue and illness more speedily and thoroughly than those do who bounteously or sparingly partake of the flowing bowl The same testimony confirms your own observation, that the likelihood of recovery from serious diseases is much diminished by addiction to the use of alcoholic beverages

The answer of the apologists and advocates is this Conceding that alcohol is neither directly nor indirectly a food, that it does not promote digestion nor fortify the system against the pestilence that walketh in darkness, nor against the destruction that wasteth at noonday, that its habitual use impairs not only the resisting but the recuperative power of the system, and admitting more than this, even the utmost that is charged against the drinking habit by the advocates of temperance and is well known by the medical profession, that alcohol is the prolific parent of pauperism and wretchedness, of vice and crime and disease, and that the taint of all these may be and often is transmitted to the third and fourth generation, are not the prevalent opinions true, founded on the practice of observing medical men, that the results of modern, accurate, scientific experiments prove beyond controversy that, in the treatment of disease, alcohol is not only useful but so necessary that its judicious employment more than counterbalances all the evils conceded or asserted to be outflowing from or generated by the moderate, and even the immoderate drink habit?

The prevailing opinion of the great majority of wise and otherwise physicians—an opinion founded in part on personal observation and perhaps in greater part on the oral or printed dicta of other physicians—is that alcohol is a stimulant, that it gives strength to a flagging heart, that its use is eminently proper in pneumonia and typhoid fever, when the pulse is weak, and that, in these and all other diseases, the amount administered should constantly increase as the pulse grows weaker, and also that in diphtheria heroic doses are not only justifiable but almost omnipotent in rescuing the patient from the jaws of death

Years ago a celebrated Brooklyn physician advocated the free use of brandy in this dread disease This practice—modified in some instances by substituting whisky or wine for brandy—has been pursued extensively throughout this country and foreign lands An eminent doctor, of large and varied experience in a children's hospital in New York, heartily indorses the practice, and asserts that large doses of alcohol have little or no intoxicating effect on diphtheritic infants In one of the latest books on children's diseases, a writer declares that the reason why whisky so often fails in the treatment of diphtheria is because it is not given in larger quantities

Recent and carefully conducted experiments made by competent scientists of world-wide reputation seem to demonstrate that alcohol should be classified with ether and chloroform as an anesthetic, rather than a stimulant Among these scientists may be mentioned Martin, Ringer, Davis, Sainsbury, Richardson, Reichert, one of whom declares that "alcohol diminishes the sensibility of vasomotor and cardiac nerves as certainly as two and two make four '

As you all probably know, Dr H C Wood asserts, as a result of repeated experiments, that the injections of alcohol in advanced chloroform anesthesia failed in every instance to increase the size or strength of the pulse, and that on several occasions they aided materially in effecting its extinguishment His emphatic advice is "In accidents during anesthesia avoid the use of all drugs except strychnin, digitalis and ammonia and remember that some, perhaps many, of the deaths which have been set down as due to chloroform and ether, have been produced by the alcohol which has been given for the relief of the patient"

Dr Frank Payne, Vice-President of the London Pathologic Society, affirms that alcohol is a functional and tissue poison, and that there are no proper or necessary uses of it as a medicine

Testimony of this sort, the result of experiment and clinical experience, is rapidly accumulating My limited time will permit me to quote only the matured opinion of Prof Nathan S Davis, whose high eminence as a scientist, a lecturer in the Chicago Medical College, an author of numerous medical works, an upright, level-headed, successful and beloved physician, is known and gladly acknowledged by the profession throughout this country and in Europe Jan 9, 1895, was his seventy-eighth birthday anniversary After an entire disuse of alcohol personally and in practice for forty years, and after a long series of experiments, he unhesitatingly declares that alcohol is an anesthetic instead of a stimulant, that as a result of this property it makes the one who uses it feel warmer when he is cold and cooler when he is warm without altering his temperature, that it makes him less sensitive to pain, that in collapse and shock and failing pulse it does not afford relief, that when given with strychnin and digitalis, the stimulating effect is always from these latter articles and is diminished by the alcoholic association, and that wine and beer are diluted poisons, never necessary, never advisable

Some of the members of the ASSOCIATION have enjoyed during the past year the pleasure of inducing a considerable number of confiding and grateful patients to abstain totally from the use of alcohol as a beverage, and have themselves totally abstained from administering it as a medicine I think it safe to affirm that the practice has been satisfactory to all the parties concerned

In the treatment of diphtheria, it has been the custom of not a few physicians, to administer Rhine or Moselle wine in decided preference to brandy or whisky The comparatively beneficial effects noted must be attributed to the considerable amount of vegetable acid in the wine and not to the small portion of alcohol There is reason to hope that unfermented wine, which contains all the desirable qualities of the grape with none of its harmful properties, will supersede the intoxicating variety

The free use of alcohol in the treatment of diphtheria, throughout Europe and in some American cities has been almost universal The mortality, according to reported statistics, has been appalling The deaths in the metropolis at home have been 47 per cent, while in Paris, Berlin, and other cities abroad, they have reached the enormous number of more than 60, in 100 cases

If the antitoxin treatment, which is under hopeful but still somewhat unsettled consideration, shall be proved to possess all the merits which it discoverers and friends claim, there will be no excuse for continuing the employment of alcohol in the treatment of diphtheria

Curiously enough, in the last report from abroad which has just been furnished by Dr Rabot of Lyons, the success of antitoxin in curing and preventing the dreadful disease is considered by the Doctor as specially "brilliant," the mortality in forty seven cases being but 34 per cent, while the mortality in 1893 was 50 per cent And the reporter significantly and jubilantly adds "No alcohol was given"

It is just possible that some incredulous caviler will suggest that the more favorable outcome—bad enough as it still is—was because the customary alcohol was not used and he may even insinuate that the result might have been equally good if the antitoxin also had been omitted

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PERITONEAL SUPPORTS—(LIGAMENTUM PERITONEI)

BY BYRON ROBINSON

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(*Continued from page 456*)

The mesocolon dextra et sinistra as peritoneal supports are of much importance to surgeons The right and left colon have been declared to exist and not to exist by various writers The following remarks I assume to make after the examination of about two hundred cadavers, the last one hundred for the special purpose of tabulating mathematically the existence and length of the right and left mesocolon The Scotch anatomist, Symington, declares he never saw a descending mesocolon Treves examined one hundred cadavers and asserts that there is a descending mesocolon in 36 per cent of subjects and an ascending mesocolon in 25 per cent of subjects Toldt claims one descending colon in twenty subjects Gray declares that an ascending mesocolon exists "sometimes" and a descending mesocolon more frequently Lesshaft claims that mesocolon descendens exist on an average once in every six subjects and that the mesocolons increase with age, i e, as the viscera prolapse the mesocolons become more apparent Abey in his excellent "Anatomie" is inclined to deny the existence of a mesentery for the vertical colons In the seventeenth German edition of that classical work of Hyrtl, one can read on page 715 "*Man kann insofern nur unrichtig von einem mesocolon ascendens und descendens und einem mesorectum sprechen*" (One can only incorrectly speak of a mesocolon ascendens and descendens and a mesorectum) One of the greatest of anatomists, Henle, ascribes no mesentery to the vertical colons, asserting them to be fixed to the posterior abdominal wall by connective tissue, immovable Quain's ninth edition states "The investment may be complete with a resulting right mesocolon," and "the membrane (peritoneum) invests (the left colon) much in the same manner as the right" The variation of opinion in regard to the existence of the mesentery to the vertical colon is due to what one understands by a mesocolon 1, it depends how much dragging is performed on the bowel, 2, it depends on the distended or contracted condition of the bowel, 3, it depends on how close the blades of the mesocolon must be to be named mesocolon After the careful examination of fetuses, children and adults, I consider a mesentery to the vertical colons as an abnormality, as an exception The solving of the problem of the existence of a mesocolon dextra et sinistra must depend on observations through fetal, adolescent and adult life In the second half of fetal life the growing kidneys appropriate the vertical mesocolons so much that the posterior surface of the right and left colons become more or less fixed to the connective tissue of the dorsal wall So far as my examinations are concerned the colons never regain their mesentery It is true that I have in perhaps 3 to 4 per cent of cases found a partial mesocolon at the upper end of the descending colon, but in such cases the descending colon was generally in a contracted state At the lower end of the right colon it is often very free, e g, when the cecum lies on the pelvic floor But in such cases the peritoneum does not depart from the posterior surface of the colon for several inches above the entrance of the ileum The lower end of the left colon is generally quite fixed where it crosses the psoas muscle In certain very spare youthful subjects the connective tissue behind the colon, especially the left, is very loose and extensible But such subjects lost their fat rapidly In such cases it is easy to demonstrate a mesocolon descendens by slight traction on the bowel The degree of extensibility of both right and left mesocolon is considerable and should always be taken into account It is a rule that the colon ascendens is minus a mesocolon at birth and the bowel is fixed to the dorsal wall It is a very common and general rule that the colon descendens has no mesocolon at birth and that the bowel is fixed to the dorsal wall This rule is, according to my experience, established for both vertical colons at the fourth fetal months

The great utility of mesocolons or no mesocolons has lost its chief significance at present, on account of the impunity of safely entering the peritoneal cavity Lumbar colotomy or colotomy by entering the bowel on its surface not covered by peritoneum is rare at present, in fact, frequently difficult to perform

My investigations convince me that the normal vertical colons of man possess no mesentery These portions of the large bowel are connected with the dorsal wall by connective tissue They lost their posterior serous covering by the growing kidney having taken and appropriated it to return it no more The transverse colon possesses a four inch mesentery, short at either end and elongated in the middle, perhaps by the expanding stomach whose blade continues on to embrace the stomach at its lower curvature That portion of the large bowel between the lower end of the kidney and the upper end of the rectum has a peculiarly elongated mesentery known as the mesosigmoid It suspends in its fold the sigmoid loop, the S romanum or the pelvic loop As the sigmoid loop with its mesentery is of growing interest to the abdominal surgeon, I carefully investigated some two hundred subjects of all ages from a four weeks' old fetus to subjects of 80 years of age In animals, as the carnivora, there is no sigmoid as one can easily observe in the dog and cat In the solipeds as the horse, one can see an enormous sigmoid loop with an astonishingly long mesosigmoid, with beautifully ordered nerves, lymph and blood vessels coursing through it The mesosigmoid then belongs only to animals of certain classes which originally required a long digestive canal to retain the food a considerable time during its passage for absorptive purposes Yet, after all, the sigmoid loop and mesosigmoid is a result of a mode of development especially due to the peculiar late use and growth of the kidney

I shall include in the mesosigmoid all that part of the mesocolon which lies between the lower end o the descending colon and the lower end of the mesorectum In short, the mesorectum and the mesosigmoid will be considered as one peritoneal support an called the mesosigmoid As Treves remarks, the sigmoid flexure and rectum said to possess a mesentery can not be separated All the large bowel which lie below the lower end of the descending colon and possesses a mesentery we shall designate as the sigmoi flexure, and the peritoneal support the mesosigmoid Pittard suggested fifty years ago that we should no separate the mesorectum and mesosigmoid In al the anatomies in command it is plain to observe hov the description of the sigmoid flexure or the S-romanum has been handed down from book to bool and from generation to generation—one writer copying his predecessor without a shadow of variation

Fig 621

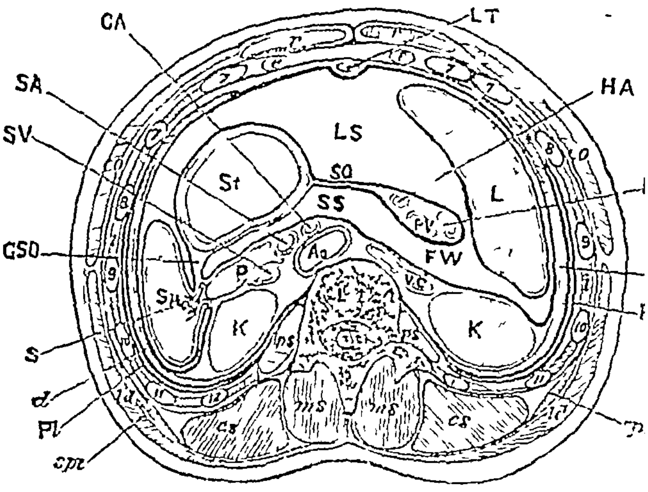


Fig 47 (after R J Goodlee, 1882, in Quain) represents an instructiv cross section of the abdominal cavity on a level with the foramen c Winslow L 1, first lumbar vertebra The peritoneum is shown by Is—psoas muscle d diaphragm, Ao, aorta Vc, vena cava SA, splen artery SV, splenic vein CA, coronary artery S, splenic vessels cu as they enter the spleen HA, hepatic artery, PV, portal vein BD common bile duct L, liver St, stomach, K, kidney, FW, *Winslow* foramen SS bursa omentalis P pancreas Sp spleen SO, smal foramen LT ligamentum teres, GSO gastro splenic omentum LS great omental cavity The peritoneum can be traced from the mic dle line anteriorly, where it is seen covering the *round ligament* of th liver and forming the beginning of the suspensory ligament of the live along the right side of the abdominal wall *over the front* of the righ kidney to the inferior vena cava, where it forms the posterior boundar of Winslow s hiatus From Winslow s foramen the bursa omentali extends over the pancreas and left kidney *as far* as the spleen whenc it is reflected backward along the posterior wall of the small omentum t the anterior of the foramen where it merges into the large sac The per toneum turns around the hepatic vessels *and forms* the anteric of the gastro-hepatic omentum which covers the anterior surface of th stomach and forms the gastro splenic *ligament as* it reflects itself o the spleen The spleen is nearly all enveloped by peritoneum and fro its posterior border the peritoneum is reflected on the diaphragm o to the posterior dorsal wall to the middle line

It is an anatomic literary legacy anciently *started* b some cloistered monk of Esculapius It is not always the most wise to introduce new terms, but som seven years ago I began to investigate the sigmoi loop and mesosigmoid and after the examination o over two hundred cases I am convinced that the ol division of the mesentery into mesosignoid and mes rectum is artificial, confusing and unnatural Beside one can not find any distinct anatomic divisio or landmark between the mesosigmoid and mesore tum, nor between the loop and rectum The descri tion given by some of the *best* English works i anatomy in regard to the sigmoid and its mesenter is to say the least meager and indefinite "Quain, ninth edition, occupied, according to the British min the *proud position* of being the best English anatom extant The following is the description which th anatomy offers on the sigmoid flexure (page 616, vol ii) "The sigmoid flexure of the colon, situated in the left iliac fossa, consists of a double bending of the intestines upon itself in the form of the letter S, immediately before it becomes continuous with the rectum at the margin of the pelvis opposite to the left sacro-iliac articulation It is attached by a distinct mesocolon to the left fossa and is very movable, falling into the pelvis when the bladder is empty It is placed immediately behind the anterior wall of the abdomen or is concealed only by a few turns of the small intestine The sigmoid flexure is the narrowest part of the colon The description from a prominent anatomy is not only meager, but absolutely misleading In the first place my examinations show it is seldom situated in the left iliac fossa, and, 2, that its mesentery does not attach it to the left iliac fossa, and 3, it does not assume an S shape So that investigations in general, do not agree with Quain in situation, attachment or shape Also I can assert that the junction of the mesosigmoid and mesorectum (or the bowels) at the left sacro-iliac joint is not what nature generally presents No one can see a division between the sigmoid bowel and the rectum

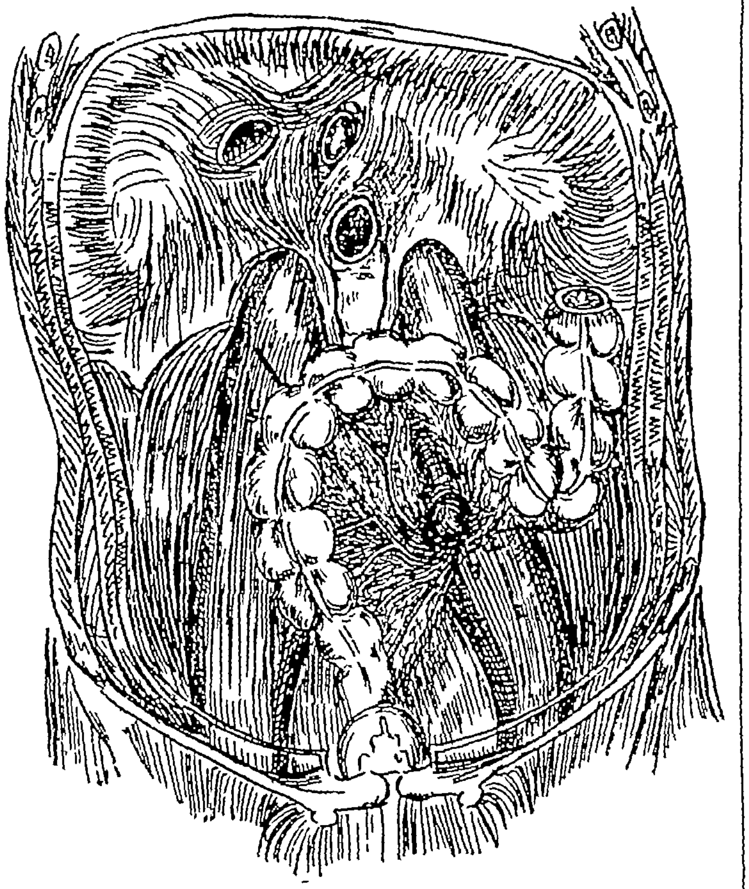


Fig 48 This figure I sketched to illustrate the mesosigmoid the sigmoid loop the psoas muscle and the intersigmoid fossa 1 psoas muscle 2, line of insertion of mesosigmoid 3 points to the intersigmoid fossa 4 is placed on the iliac muscle at the junction of the lower end of the colon and upper end of the sigmoid loop, 5 is near the hook which suspends the S iliac

The first and most significant matter to investigate is the origin, cause and final location of the mesosigmoid This is naturally determined by examining fetuses of all ages, the newborn children and the adult In the fetus the descending mesocolon is inserted directly in the middle line of the body from the second lumbar vertebra to the end of the sacrum At the end of the third month of gestation, one finds that the kidney is beginning to increase rapidly, insinuating itself between the blades of the descending mesocolon As the kidney increases in size it grows toward the left—the line of least resistance and forces the colon leftward with its mesentery But the leftward moving of the descending mesocolon only takes place as far downward as the lower pole of the kidney, that portion of the mesocolon extending from the lower pole of the kidney to the rectum does not, at first, move to the left, but constitutes what we include in the mesosigmoid Now the position of the mesosigmoid varies much as regards its position in early life I have examined a child eighteen months old with the mesosigmoid inserted directly in the mid-dorsal line as high as the second lumbar vertebra—even higher than the lower pole of the left kidney In others the whole mesosigmoid may move to the left, earlier Occasionally, in adults, it was found that the mesosigmoid had moved but slightly out of its original mid-dorsal insertion However, generally by the sixth month of gestation the mesosigmoid has begun to move definitely toward the left, *i e*, its mid-dorsal insertion has begun to shift its line downward and outward toward the left iliac fossa The left blade of the mesosigmoid in my opinion, becomes displaced, drawn out with the advancing leftward mesosigmoid insertion followed by the right blade covering up the old line The various forces at work shoving the mesosigmoid line of insertion leftward are (*a*), the rapidly increasing packet of small intestines, (*b*), the large left lobe of the liver, (*c*), the rapidly increasing left kidney, and (*d*), the increased lateral abdominal space

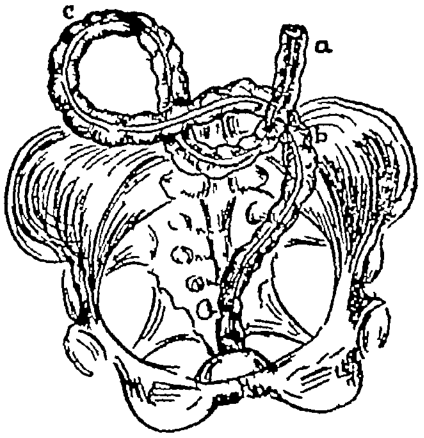


Fig 49 I sketched from a post mortem examination of a 6-months old child in which Dr Waite and I performed the autopsy We found an enormously long S iliac as shown in the figure, reaching into the right iliac fossa and existing in the state of a volvulus a and b represent the mesenteric axis around which the loop c has rotated The volvulus at the autopsy did not seem twisted tight enough to cause obstruction The figure illustrates the notable long S—iliac found in the newborn

It is thus noted that the mesosigmoid moves from its mid dorsal insertion to its left iliac insertion gradually I have actually observed in fetuses and children that it will require two years after birth in some subjects for the mesosigmoid to assume its oblique adult insertion In one adult it could be said that it had only partially moved from its original insertion In other adults it could be observed that the mesosigmoid had its insertion excessively to the left Also, it was frequently noted that the line of the mesosigmoid insertion varies very much The upper end may advance much more than the lower end or *vice versa* The line of the insertion of the mesosigmoid in adults begins at the lower end of the ascending colon and ends at the point where the rectum leaves its mesentery The lower end of the ascending colon is at a point where the bowel begins to pass transversely across the psoas muscle at its outer border The lower end of the mesosigmoid is at a point where the mesorectum ceases, or at the third sacral vertebra The course of the line of insertion of the mesosigmoid in the adult may be described as follows the line begins just below the lower pole of the left kidney and passes generally in a curve or transversely over the psoas muscle Sometimes the line of the mesosigmoid insertion and the ureter converge to a point at the ureter at the right side of the psoas muscle The line then runs irregularly midway between the right edge of the psoas muscle and the mid dorsal line, downward into the pelvis on the anterior surface of the sacrum, varying in its point from the right to the left border of the sacral anterior surface In fetal life the line of insertion of the mesosigmoid may pass in its middle point up to the second lumbar vertebra, or even to the lower end of the duodenum where the spermatic vessels emerge which aid in forming the conical intersigmoid fossa The base or dorsal line of the sigmoid varies very much in its length It may be four or twelve inches but will probably average six This line in many adults extends directly from the lower pole of the left kidney to the point of disappearance of the mesosigmoid at the third sacral vertebra The basal insertion of the mesosigmoid is nearer the median line than distal or periphery, i e, the S–romanum The length of the distal line of the mesosigmoid I measured in fifty adult subjects and its average was sixteen and three fourths inches With a base line of six inches and a distal bowel line of sixteen inches it gives the mesosigmoid a fan or truncated cone-shape very similar to the shape of the mesenteriolum The shortest adult base mesosigmoid line was eight inches, while the longest distal was twenty eight inches in fifty subjects The length of the mesosigmoid from the dorsal line of insertion to the bowel is an average of two and one-half inches In fifty subjects the longest was five inches and the shortest an inch and a half

(*To be continued*)

SOCIETY PROCEEDINGS

Chicago Pathological Society

Regular Meeting, June 10, 1895

Weller Van Hook M D, President, in the chair

Dr E Friend read a paper on

A CASE OF LICHEN RUBER PLANUS

I take the liberty of presenting before you this evening a patient, affected with not an altogether common, yet at the same time to my mind, rather interesting example of generalized lichen ruber planus, or as is more commonly known here in America, lichen planus The patient was kindly referred to me at the United Hebrew Charity Dispensary, by Dr Fischkin Her history sheet read as follows Mrs Anna O, nationality American age 40 years, occupation nurse, family history negative Patient is of a dark complexion, dark eyes and hair height five feet five inches Weight 105 pounds, which is 30 pounds less than she weighed last Christmas Previous history during childhood, patient had measles, typhoid fever, mumps, since which time the patient has been quite well, to the time of the birth of her third child, which was twelve years ago, since this time patient has been troubled with a supposed bladder affection, which manifested itself by a frequent desire to urinate, and a burning and smarting pain while urinating The urine remaining clear at all times This has persisted more or less up to the present time, when patient urinates about every hour and sometimes a 'spasm" as she terms it preventing her urine passing freely *Status Præsens* her present disease began in January last, with a severe chill which lasted three hours, followed by fever and a tired, drowsy, sleepy feeling The patient stated she was entertaining friends at the time and had to desist, one of her lady friends remarking that she had never before seen Mrs O in an intoxicated condition Following these symptoms, she had a severe headache, and two days afterward she noticed an eruption in the right pectoral region of the chest characterized by separate and discrete millet seed to split pea sized shining, polygonal, and round, bluish or pinkish papules, with a central depression, (so well likened by Kaposi to a piece of wax, upon which an impression had been made with point of a pin), hard and firm to the touch The color disappearing somewhat on pressure

The post-cervical lymphatics became and are still enlarged This eruption spread along the right side of the chest, thence to the neck, opposite side of the chest, back, flexor surfaces of the arms, but better marked on the fore arms, abdomen and inner and outer aspect of the thighs and legs On the abdomen the eruption is more marked at the waist band line, and here especially those papules undergoing involution leave a characteristic, sepia brown pigmentation and the appearance of an atrophy of the skin The itching which was very slight during the entire course of the disease was present here to greater extent than in any other portion of the body The inguinal lymphatics are enlarged, especially in the right inguinal region to the size of a pigeon's egg, separate, distinct and tender to the touch In a number of places on the back, the papules are arranged in chains, or like beads on a string and correspond to Kaposi's lichen ruber moniliformis

The physical examination reveals the mouth entirely free from any affection Heart and lungs normal, abdominal viscera normal, with exception of the spleen, which although apparently not enlarged is quite tender, both on percussion and palpation Vaginal examination reveals nothing abnormal with the exception of a cervix laceration, which the patient is unaware of and does not trouble her in the least The urethra for some distance is the seat of a number of small hyperemic polypoid growths, these having been removed from time to time by a number of different physicians Appetite is ravenous Bowels are regular Menstruation regular and painless Urinary analysis negative The patient's treatment has been the Asiatic pills one after each meal, and locally Unna's salve composed of carbolic acid, 20, corros sublimate 1 part in benzoated oxid of zinc basis 500, she has made quite an improvement in about one week's treatment The patient kindly allowed me to excise a section of skin of her back containing a number of typical lichen papules, for histologic examination, which I am sorry I can not present to you this evening owing to the lack of time required in preparing them

Appendix The histologic examination of a section of the skin involved in the bead-like formation, which was fixed in picric acid and bichlorid of mercury, hardened in alcohol, and stained in alum carmine, revealed the following pathologic changes over each papule, the epidermis was much flattened, especially the lining layers beneath which the papillæ were literally packed, with a round cell infiltration and in those papillæ not the seat of such a dense infiltration, the capillaries were very much distended This infiltration of round cells also followed along the hair follicles and sebaceous ducts but seldom deep in the corium There was to some extent a hypertrophy of the rete malphigii A bacteriologic examination was made with negative results

This case seems of particular interest in that a number of subjective and objective symptoms point toward an infectious nature of the disease, as Lassar believes, and who has found a bacillus supposed to be responsible for this disease

1 The suddenness of its onset
2 Beginning with a chill and followed by a marked fever, and general malaise
3 Enlargement of the lymphatics
4 Rapid loss in weight
5 Marked tenderness of the spleen

Dr C D Wescott reported a case of

FIBROSIS OF BOTH OPTIC NERVES, FOLLOWING FRACTURE OF THE BASE OF THE SKULL

By the courtesy of my friend Dr Hektoen, professor of pathologic anatomy at Rush Medical College, I am privileged to report the following rare case I know of no case in my own experience or in my reading which is parallel

A young, vigorous man, 23 years old, died from acute, general, serofibrinous leptomeningitis after an illness of two days, characterized by coma, opisthotonos and other grave symptoms The following history was obtained one year previous he fell from a United States mail car while the train

Dr Patrick said, in rebuttal, he did not claim that there was no such thing as hypnotism, but that the hypnotizer had no direct power in himself over the subject hypnotized

Dr C J Helm, of Peru, Ind , then presented a paper on "The Nervous System as a Factor in Disease" The paper was an excellent resumé of a great subject, and to make a notice of the points made without free excerpts is impossible Slight functional disturbances, if constant and continued, may produce actual organic lesions Change is the great remedy for these troubles, not necessarily of surroundings but of the waste places in the nervous system , give the forces some new direction Study your patients in every phase Get them out of the ruts they have gotten into, and you will have then cured your patients before you know it

Dr Robert H Babcock, of Chicago, presented "Some Considerations with Regard to the Senile Heart" The condition is not always due to age or necessarily found in the aged Importance should always be given to the myocardial changes Dyspnea is a most frequent symptom of senile heart, although it occurs in other conditions as well It finally becomes the almost surely fatal symptom—Cheyne-Stokes respiration Various remedies were advised, and among them the hypodermic use of morphia in a single dose

Dr Fütterer, of Chicago, said we sometimes find in these cases a more or less intermittent pulse

Dr J B Herrick, of Chicago, added his testimony with regard to arythemia, which he considers a frequent and most important symptom

Dr Babcock said that the intermittence is not necessarily a dangerous symptom, but at the same time any such senile heart is liable to stop during one of these diastolic irregularities coming on suddenly In Cheyne-Stokes respiration morphia seemed to act best with small doses of atropin

Dr Frank Billings, of Chicago, presented a paper on "Intercostal Neuralgia" The disease is always secondary and consequently, in reality, only a symptom It may be due to toxic forms of functional nerve disturbance, or to pressure by tumors The functional form is most common and usually due to a defective excretion or mal-assimilation Indigestion is a most frequent factor, whether due to the character of food ingested or to nervous conditions Insufficient food and lack of outdoor exercise are frequent causes Intercostal neuralgia occurs oftener in females, usually on the left side Palpitation is usually present Gas in the stomach with eructation is always present In diagnosis we must always search for the cause It may be confounded with pleurisy or muscular cardiac rheumatism In treatment, remove the cause and give any simple restorative tonic

Dr W H Porter, of New York, read a very exhaustive paper entitled "New Light on the Rôle which Iron Plays in the Physiologic Economy—How and where does the Hemoglobin come from?" It is not the product of synthesis It is difficult to formulate a nucleo-albumin The iron is not excreted by the salivary, gastric or sweat glands The hair uses up some, the urine a slight amount The bile uses most, but the total in both hair and bile is only one-tenth grain daily Some writers say that the iron is stored up in the liver, but this is not practical The intake and output both being very small, we must conclude that iron in the body is very stable There is then a question whether iron should be so frequently and indiscriminately used in anemia

Dr John North, of Toledo, had almost given up the administration of iron in cases of anemia In most cases we should correct the trouble in the alimentary canal, avoid the destruction of the nucleo-albumins, and no iron will be needed

The paper of Dr John Aulde, of Philadelphia, on "The Abortive Treatment of Typhoid Fever," was read by the Secretary of the Section The author reviewed the advantages of guaiacol, carbolic acid, salol, betanaphthol and others, and finally gave his own and others' experience with arsenite of copper, stating that, in his opinion, the disease could be aborted at almost any stage by the use of copper arsenite with appropriate constitutional remedies As a rule 1-100th gr should be given every four or six hours The remedy may be given hypodermically if the disease be advanced to the second or third week

Dr Gustav Blech, of Detroit read a paper on "Medicinal Treatment of Typhoid Fever" The author opened his paper with "There is no specific treatment for typhoid fever" Hydrozone, 1-32, is a most valuable intestinal antiseptic Irrigation of bowels with cold water is a necessary adjuvant in all cases

The two preceding papers with that of Dr J E Woodbridge, of Youngstown, Ohio, on "Typhoid Fever and its Abortive Treatment," were read in succession and discussed jointly

Dr Love said the treatment suggested by Dr Woodbridge was not original, that all physicians had used the same for years He protested against the use of the term, abort, as he thought it could not be done Rest is an important factor in the treatment Typhoid fever is a matter of diagnosis He questioned the diagnosis of typhoid in some of the cases reported by Dr Woodbridge

Dr North would change the word abort, to miscarriage The germs do not enter the circulation If we can discover something which will eliminate the germs, we can thus cut short the attack The constant study of the one disease is the only way to progress He does not think one can become too enthusiastic but conclusions can be drawn too hastily

Dr Porter said "abort" is an unfortunate and misleading word We can decrease the intensity and cut shorter the duration of an attack with such remedy It can not be abortion in any germ disease

Dr J B Herrick said in an experience with over one thousand cases of typhoid fever, he is inclined to think that there is no specific for the condition For the febrile condition, he does not consider anything equal to the cold bath Even Woodbridge's treatment is an expectant one

Dr Woodbridge, in closing, made reference to former discussions and papers by himself and others Even if we could exclude the diagnosis of genuine typhoid in these cases, what better treatment can we find for the condition? When, however, the rose spots appear along with the usual symptoms, we must admit it is typhoid fever, and these cases can all be aborted in a few days

Dr E L Shurly, of Detroit, presented a paper on "Treatment of Pulmonary Consumption in Hospitals" For many reasons the treatment in general hospitals is not practicable Other patients and dangers of contagion, whether real or imaginary, are important factors Homesickness and poverty are also against it Foreign hospitals for tuberculosis are successful, but the conditions are different in this country The Harper Hospital of Detroit has been the nearest a success of any American institution Americans are too restless and have not patience enough to test the system The hospital must not only be thoroughly equipped, but located in an equable climate

Dr Gustav Futterer, of Chicago, at the same time presented his paper on "The Direct Cause of Tuberculosis," which will appear in full in the Journal

Dr E B Dench, of New York, read the paper on

THE TREATMENT OF ACUTE INFLAMMATIONS OF THE MIDDLE EAR AND MASTOID PROCESS

For convenience, the author anatomically divided the middle ear into two parts, by a line drawn through the styloid process Inflammations in the middle ear produce the ordinary results of the same process elsewhere within a cavity lined by a mucous producing membrane, but because of transfusion the tissue necrosis is not so extensive, yet there is enough retained to cause an outward bulging of the tympanic membrane If seen early, free blood letting should be practiced and a single dose of an opiate given Do not give but one dose of the opiate under any circumstances Also apply dry heat locally Do not use wet heat If not seen until later, free opening is the only thing to be advised The technique of the operation was minutely and carefully described The more acute and severe the case, the more prompt should be the measures for relief

An incision should be made often, even when it is known the cavity contains no fluid The incision does not end the danger, the entire cavity must be thoroughly washed out and made antiseptic by irrigation

"Sequelæ of la Grippe" This paper was read by Dr F C Heath, of Indianapolis Several cases of eye results were given and the more common condition of ear complications noticed, with treatment considered

In the discussion, Dr Straight thought the stomach was the most frequently affected of all organs

Dr North said quinin given for la grippe had done more damage than any other one thing

Dr Wheelock saw two distinct kinds of reaction following in ear cases with periostitis or middle ear abscess

Dr J M Ball of St Louis, read a paper entitled "Artificial Ripening of Cataract" A complete history of the operations was given, and the various methods were explained Before doing any of them, the surgeon should be sure the zonula is intact, the tension normal, and the pupil dilatable Division of the anterior capsule in these cases is always more or less dangerous and may be serious Bettman's operation or direct massage or trituration is of all the most desirable It is the least dangerous, most certain, and speedy It has stood the vital test of experience and is worthy of confidence If prolapse of the iris occurs, snip it off at once, contrary to most authority, but he had found it satisfactory and beyond expectations

Dr J O Stillson, of Indianapolis, read a paper entitled, "Complications in Cataract, Arising from Diabetes, Albuminuria," etc The diabetic cataract is as yet a puzzle A serous retinitis is often a symptom of Bright's disease Albuminuria is a frequent complement of cataract It is not only desirable but necessary to treat these conditions if they exist, before operating for the senile cataract

Dr K K Wheelock, of Fort Wayne, Ind, read a paper entitled "Rheumatism and Gout in its Relation to the Eye" The paper was a thoroughly practical one and presented this somewhat old but nevertheless important subject in an interesting manner The paper elicited a warm discussion

Dr G W McCaskey, of Fort Wayne, Ind, followed with a contribution on

BIO-CHEMISTRY IN ITS RELATION TO NERVOUS DISEASES

In this paper the somewhat peculiar and certainly novel attempt was made to establish the general theory of the causation of nervous diseases by chemic poisons, circulating in the blood and acting by a process of selective affinity upon different parts of the nervous system The author referred to these poisons under the following groups, the classification being entirely tentative, and based upon their source of origin instead of their ultimate chemic analysis or physiologic faction 1, bacteriologic products—ptomaines, 2, products of perverted tissue metabolism, 3, defective elimination of excretion, 4, perverted secretion of glandular organs, 5, products of imperfect digestion, 6, chemic compounds probably present in independent blood states, and of unknown origin

Many conditions, heretofore unknown as to their etiology, will be found to be due to one of the above conditions existing in the system

One of the most practical papers of the Section was that read by Dr J H Taylor, of Indianapolis, entitled ' How Shall We Rear Our Babies?" The suggestions and directions were for both physician and mother, and put in so pointed a manner that the paper ought to have a wide circulation

The next paper was by Dr Fenton B Turck, of Chicago, which was entitled

DISEASES OF THE MOUTH, NOSE AND THROAT, AS ETIOLOGIC FACTORS IN CHRONIC GLANDULAR GASTRITIS, WITH BACTERIOLOGIC STUDIES OF THE PHARYNGEAL VAULT

Bacteriologic study has developed the fact that upon the mucous membrane of the mouth, nose and pharynx, groups of microörganisms may form, which may also be found growing on the mucous membrane of the stomach, and certain germs that are found in the inflamed mouth may also be found growing on the walls of the stomach in gastritis Under normal conditions the mucous membrane of the stomach does not favor colonization upon its walls, but let some etiologic factor come into play and microörganisms will develop The mouth, nose and throat, when in a diseased state, become incubators ready to infect when the conditions of the stomach permit the development of growing microörganisms upon its walls The author then referred to the bacteriologic studies of Miller, Wurtz and Lindet Microörganisms of the mouth are carried by the food after mastication into the stomach, many of them are again recognized in the stomach, and in cases of gastritis are found in colonies growing upon the mucous walls The author in his clinical and experimental work has presented similar groups of microörganisms taken from the gums and cavities in the teeth, as well as from the material removed by the gyromele (revolving sound) from the walls of the stomach In cultures upon the prepared mucous membrane of the pig, he has been able to cultivate some of the microörganisms and find the same developing in the stomach that are found in the mouth But in the control animal, he has not yet found microörganisms growing in colonies in the stomach

After reporting several cases, Dr Turck concluded that clinical observation indicates a marked relation between diseases of the mouth and post-nasal cavity and chronic inflammation in the stomach and intestines that the invasion of the stomach from the infected mouth and pharynx is supported by the fact that many of the non-pathogenic microorganisms present the identical, biologic and physical forms in cases of gastritis the same as those found in diseases of the mouth and post-nasal cavities of the same patients Dr Turck exhibited a chart showing the predominating microörganisms found in eight cases that were studied bacteriologically

Dr Larrabee, of Louisville said, in the discussion, that the germ theory had been superseded by germ facts as presented

Dr Frank Billings, of Chicago, complimented Dr Turck on his excellent clinical and experimental work, saying that the Doctor stands at the head of his profession in the work he has accomplished He had shown that when there is a lowered vitality of the mucous membrane of the stomach by errors of diet, a soil is produced favorable for the development of microörganisms

Dr H W Loeb, of St Louis, read a paper entitled

EXPERIENCES WITH PAQUIN'S ANTI TUBERCLE SERUM IN THE TREATMENT OF LARYNGEAL TUBERCULOSIS,

in which he gave the history of nine cases of this disease, seven of which had been treated with the serum The patients all improved greatly One case particularly lost all dysphagia pain in the larynx, cough and night sweats Other patients showed a much greater improvement than under any other plan of treatment yet tried The Doctor quoted the confirmatory evidence of Maragliano of Genoa, Cole, Semon, Wiggins and Paquin He will continue his investigations and present further conclusions at a later date

In the discussion, Dr Paul Paquin, of St Louis, explained in detail the treatment which he had instituted He said it was just in its beginning It will have to be improved as we go along, and it will take years to do so The best results have been obtained in the acute forms of the disease, and not in the chronic The law underlying serumtherapy is a natural one It is trying to fight bacteria by using nature's remedy He had had failures with serum, but he could mention forty or more cases of recovery He thought that in some cases it would require other treatment beside serum He had not had good results inside of two or three months, and it frequently required five or six months, or even longer He had made over ten thousand injections with serum in tubercular cases, but did not recall one which was attended with fatal results He counseled study of the climate as well as the patient before sending a patient away Tuberculous patients could not live in Colorado or New Mexico They will die quicker there than anywhere

Dr Victor C Vaughan, of Ann Arbor, Mich, presented an article on "Yeast Nuclein and its Therapeutic Uses" Physiologically, nucleins form the chief chemic constituents of the living parts of cells, that constituent of the cell by virtue of which this histologic unit grows, develops and reproduces The nuclein of various cells differs, and is limited only by the variety of cells Chemically, the nucleins contain a large amount of phosphorus Some are combined with albumin, forming the so-called nucleo-albumin The nuclein molecule has a remarkable power of recuperation after partial decomposition Some nucleins have germicidal properties Experiments were made with animals, apparently proving that previous treatment by the nuclein gave immunity to the pneumococcus Some thirty experiments were detailed and results given which seemed quite promising

Dr Hugh T Patrick, of Chicago, read a paper on

DIAGNOSIS OF HYSTERIA

The writer dwelt particularly upon the peculiarities of hysterical anesthesia, hyperesthesia and paralyses The principal peculiarities of the first are its distribution in the form of a glove, sleeve, or stocking, with sharply cut border and in disseminated and irregular patches Dr Patrick called attention to a distinguishing trait not yet described namely, almost instantaneous shifting of the line of demarkation between the anesthetic and normal areas This peculiar feature applies equally well to hyperesthesia Among the hyperesthesias was described hysterical joint disease and hysterical angina pectoris with the differential points of diagnosis between these affections and organic disease The peculiarities of the hysterical gait were described at some length and their relation shown to the affection described by Blocq and called by him astasia abasia The writer protested against this affection being considered a nosologic entity, as it is simply an exaggeration of a common feature in hysterical paralyses The peculiarities which distinguish an hysterical from an organic paralysis of the upper extremity were also described, and hysterical affections of the special senses were briefly alluded to

Dr. B M Ricketts, of Cincinnati, read a paper entitled

HEMORRHOIDS—PROLAPSE RECTUM—A NEW OPERATION

The object of this paper was to present means more simple than had heretofore been offered for the radical cure of a prolapsed rectum and the obliteration of hemorrhoids After widely dilating the sphincter with the fingers under

Dr. Robert Fielg Libra
[illegible]

a distant land and has severed his connection with the work and turned over his copyright privileges to his former associate The new edition contains little that is not in the second edition The spelling of certain words has been changed, so that we now have chlorin, chlorid, technic, analytic, etc From the table of contents we would infer that there was a considerable alteration in the text, but on examination we find merely a rearrangement of the matter A few paragraphs have been added under the heading of Biologic Examinations and their Interpretation For instance, citation is made of Vaughan's culture of the bacteria of water at 38 degrees C, to exclude all growths except those that flourish at the body temperature The Franklands are cited on the differentiation of the typhoid bacillus, and several methods are briefly stated from the works of various experimenters for the detection of the spirillum of cholera The sand filters at Lawrence, Mass, are described The author, however, is not accurate in all of his statements, as, for instance, on page 103, where he appears to consider that the object of the convention of bacteriologists lately held in New York city was merely to secure a consensus of opinion among bacteriologists as to the most satisfactory method of microbe counting However, the book has its uses, and with exceptions noted is of considerable value

The Diseases of Personality By Th Ribot, *Professor of Comparative and Experimental Psychology in the College of France* Authorized translation, second revised edition Pp 163 Chicago The Open Court Publishing Company Price, cloth, 75c, paper, 25c 1895

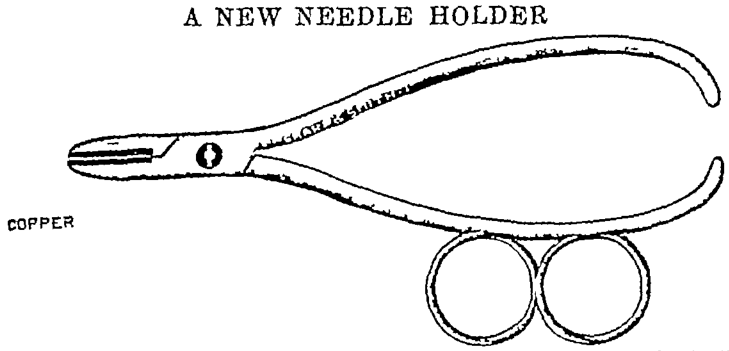
This book is one of a series of psychologic phantasies which have been published from time by the Open Court Company Professor Ribot first published his studies of the diseases of personality in Paris, 1884 The fact that the book passed through four editions gives ample proof of its value to psychologists

The work is divided into four chapters devoted to Organic Disorders, Affective Disorders, Disorders of the Intellect, Dissolution of Personality, respectively

The author gives a number of observations of cases of spontaneous alterations of the "Ego," which he thinks to be a more rational basis for the study of the morbid manifestations of personality His deductions from a psychologic standpoint are clear, logical and concise, and will be read with profit by those interested in this branch of science, and familiar with its peculiar phraseology

NEW INSTRUMENTS

A NEW NEEDLE HOLDER



The above drawing illustrates a needle holder which I have found more convenient than any other which I have heretofore used The handle is of such size and shape that it can be firmly grasped by the hand The two rings on the lower half of the handle are for the tips of the middle and third fingers, and the instrument is easily opened by grasping the upper half of the handle between the bases of the thumb and index finger and simply opening the hand Two pieces of copper are set between the jaws, insuring the needle against slipping

In getting rid of the spring and lock, we are rid of parts which often annoy by getting out of order and retard our work The grooved steel jaw is also often troublesome by breaking needles or tilting them in the wrong direction when they are firmly grasped I believe that much more rapid work can be done with this instrument than with any other with which I am acquainted

The figure is one-half the exact size of the holder, and was made for me by Sharp & Smith of Chicago

Jno Madden, M D

63 and 64 Sentinel Building, Milwaukee Wis

PUBLIC HEALTH

In Honor of Jenner—In order to fitly commemorate the centenary of vaccination, which will occur in May, 1896, the National Health Society of Russia is organizing an ambitious program It proposes to offer four prizes for the best works on vaccination, to collect and furnish materials for a history of the practice in Russia and Western Europe, to publish a Russian translation of Jenner's works, with his biography and portrait, to give an exhibition of objects connected with vaccination and to hold a commemorative meeting on the day of the centenary, May 12 Dr Vladimir Hubert will edit the history of the great discovery

Oleomargarine and Natural Butter—In order to determine the relative digestibility of oleomargarine and natural butter, Dr Adolph Jolles (*Sitzbericht Kaiserl, Academie in Wien*, 6th Mar7, 1894) has carried out a long series of observations on dogs fed during four consecutive periods with natural butter and with margarine All other things being equal, it was found that from 97 to 98 per cent of the fatty matter was uniformly digested, whether it was butter or margarine which was used During the first and third period, while butter was given, 98 4 and 97 1 per cent, during the second and fourth, while margarine was used, 97 9 and 97 3 per cent of the fatty matter given was digested It thus appeared in this experiment, where proper care was taken to have all the conditions similar, that natural butter and manufactured margarine had practically identical coefficients of digestibility and nutritive value[1]

Lofty Stature versus Long Life—A writer in the *National Popular Review* has been investigating the age period at death of those abnormally tall individuals who are classed as "giants," and believes he has found that all who measure over six and one half feet have been short in their life's span He is of opinion that there is sure to be some failing link in the physiologic chain of these abnormal beings, and this, too, independently of any of those moral inadequacies which too often exist and help to precipitate an early downfall or breakdown He further says

"As a rule, giants are not long lived They have too many gauntlets to run Being giants—that being anything over six feet six—they naturally drift into the show business and are thenceforth incarcerated in vans, close rooms and in the dingy and effluvia-laden air of the exhibition room Their not over resisting lungs here inhale the combined effluvia and aroma that arises from the lungs, skin and not over-clean or over-well aired clothes of their many admirers, all of which is not conducive to either health or to long life It would seem reasonable to believe that a giant—be he seven or ten feet tall—who is well formed, and who has every organ in a just proportion to his bulk, should live as long as a small man or as long as his heredity might otherwise permit Reasoning theoretically, this would seem probable, but when we come to analyze the subject and compare the actual facts we find that something or other always goes wrong, and, owing to many an "if," we find that our giant dies early, as a rule Some one organ goes wrong, and the great machine comes to a stop, or some organ does not keep pace with the rest of the increase in bulk, and he goes halting and squeaky, or either an overwork or an underwork here or there, and a physiologic inadequacy, of some sort is the result, with a general deterioration of the whole structure and a finally premature death "

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[1] Boston Medical and Surgical Journal, Sept 12, 1895

Medicine and Hygiene at Bordeaux —Marcel Baudouin is not at all enthusiastic over the medical exhibit in the Exposition at Bordeaux He says in *Le Progres Medical*, he finds there only odd bits touching upon the science of medicine and hygiene and complains that the exhibit is not complete and has no definite lodging place There are indeed, says he, under those pavilions, in the midst of the endless rows of chairs and flower beds, in those elegant palaces, striking copies, by the way, of the colossal buildings at Chicago, many surgical instruments, sanitary appliances, mountains of bottles of mineral waters, etc And, here and there, one comes upon some show cases that interest the physician, some pictures or instruments which attract the eye of the hygienist He refers to two reminders of the Chicago Exposition the optometer of Dr Clark and the Leblanc stoves, and that the exhibit of cold storage rooms for the preservation of meats, milk and other foods, is an interesting feature to scientists The one exhibit which aroused the writer's real enthusiasm is the emergency hospital station installed in the Exposition by the Society of Ambulances of Bordeaux Alongside of this hospital is the pavilion in which the society exhibits its apparatus and the plans of its principal stations There is also the two-wheeled litter exhibited by this same Bordeaux society, very well built and extremely light" This is the first wheel litter ever seen in France with pneumatic tires

Medical Climatology of Brazil —Rio Janeiro, the capital of Brazil, with 600 000 inhabitants is bathed by the sea on the southeast, east and north It is in a valley between spurs of the coast range, of which Corcovado, 800 meters, is the highest point, and the city extends upward on these slopes to a height of 750 meters The subsoil is humid and saturated with organic matters Dr Fives, of Almeida, believes this has a great deal to do with the prevalence of yellow fever and all the zymotic diseases Yellow fever is endemic in many Brazilian cities and Rio Janeiro pays a yearly tribute This disease frequently assumes an epidemic character when its proportions are alarming Nevertheless, the mortality figures for 1893 are lower than those of the years immediately preceding Next to el vomito, beri beri and tuberculosis are potent factors in the death rate, as also all pulmonary affections, on account of the constant humidity of the soil The following table gives an idea of the climatic conditions of the city

	Mean Barometer	Thermometer in the shade	Difference bet. Maxima and Minima Thermometers
January	754 mm 73	26 1°	14 0°
April	758 ‘ 21	28 0°	9 4°
July	762 “ 82	19.2°	29 3°
October	756 ‘ 71	21 2°	18.8°

A sample of the number of rainy days and quantity of rain is afforded by the following

1886	149 rainy days	12 mm .87 of rain
1887	154 rainy days	13 mm .15 of rain
1888	109 rainy days	13 mm 99 of rain

In July, 1892, Drs Francisco de Doncher, Luis Laureys and Guimaraez Bouzeau made a report to the National Congress, in which they stated the causes of the insalubrity of Rio were due to 1, corruption of the soil, 2, insufficient water, 3 defective system of the 'City Improvement Company", 4 existence of the Manque canal in communication with the two large lagoons, which constantly communicate with the sea 5, defective hygiene in certain private establishments They recommended thorough drainage of the subsoil as the first step to be taken Porto Alegre has 50,000 inhabitants, 8 000 to 10,000 of whom are foreigners Morbidity and mortality are very high in this city, also tuberculosis, typhoid fever and gastro-enteritis Paludism is as common as in Rio Bahia This town is noted for the large number of aneurysms During the twenty years from 1870 to 1890, out of 53,188 patients, 90 had aortic aneurysms, and 36, aneurysms of other arteries Dr Britto attributes this prevalence to mountain climbing and too elaborate diet[1]

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[1] Journal d Hygiene 1895 No 982.

Systematic Inspection of Canned Food Supplies —The *Sanitary Record*, for July 26, devotes a leading article to the imperfections of legislation in Great Britain in the matter of a thoroughly organized system of inspection of food It makes no scruple in saying that the existing laws fall ridiculously short of the requirements of the case, and that the officers responsible for the detection and prevention of adulteration are greatly hampered The laws, it avers, seem to have been so drawn up as to protect the adulterator, and even to shield those who must know that they are engaged in the sale of foods that are unfit for human consumption In the following paragraph, allusion is made to the defective supervision had over canned goods, a portion of which, at least, is derived from this country

'There is positively little safeguard as regards the sale of meat and fish in tins Yet probably the greater number of cases of poisoning from the eating of unwholesome viands are due to tinned foods Unfortunately, there exist a number of firms in the United States and in South America who pack enormous quantities of meat and fish without taking the necessary precautions Often the cattle or fish are in a diseased state, the cleaning and cooking is carried out in a careless way and the packing in tins is scamped The consequence is that air sometimes gets into the tins, decomposition sets in, and the persons who consume the contents run serious risks of alkaloidal poisoning Even tinned milk of inferior brands is frequently found to be in shockingly unwholesome condition Of the adulteration of tinned and bottled comestibles with borax and other 'preservatives,' and of copperas and other coloring matters, we need not write on this occasion But it is evident enough that the law as regards inspection of foods, the control of preparation and sale of viands requires revision and strengthening, and, above all, of simplification The practical sanitarian always feels angry when he reads that a coroner's jury has returned a verdict of accidental death, when some one has fallen a victim to the eating of unwholesome food, for he knows well enough that such deaths would become almost impossible were proper and thorough inspection feasible "

The writer of the article looks forward to the time when this subject will be adequately dealt with, and this will be when the legislators of the United Kingdom devote their energies to "really useful work "

Health Reports —The following health reports have been received at the office of the Supervising Surgeon-General Marine Hospital Service

SMALLPOX—UNITED STATES

Illinois Chicago, August 1 to 31, 7 deaths
Louisiana New Orleans, September 1 to 7, 8 cases
Michigan Battle Creek, Bedford Twp, Charleston Twp, Detroit, smallpox reported present September 1 to 7
Ohio Dayton, September 13, 1 case
Texas Eagle Pass, September 9 to 15, 1 case
West Virginia Wheeling, September 13, 20 cases

SMALLPOX—FOREIGN

Batoum August 20 to 27, 1 case
Cairo August 6, to 12, 2 deaths
Constantinople June 1 to 30, 39 deaths
Dublin August 24 to 31, 3 cases
Havana August 29 to September 5, 2 deaths
London, Eng August 24 to 31, 4 deaths
Prague August 17 to 24, 1 case
St Petersburg, August 10 to 24, 8 cases
Trieste August 17 to 24 2 cases
Tuxpan August 24 to 31, 7 deaths
Rio de Janeiro August 10 to 17, 67 deaths

CHOLERA—FOREIGN

Hawaiian Islands Honolulu, September 5, 39 cases, 32 deaths
Japan Osaka, July 19 to August 1, 1076 cases, 717 deaths, Hiogo, July 19 to August 1, 246 cases, 193 deaths, August 10 to 17, 287 cases, 237 deaths
France Paris, August 11 to 17, 8 cases
India Madras, August 3 to 9, 4 deaths, Calcutta, July 27 to August 3, 11 deaths, Bombay, August 6 to 13, 4 deaths Singapore, June 1 to 30, 80 deaths, July 22 to 29, 38 cases, 31 deaths
Morocco Tangier, September 11, cholera reported

Russia, Volhynia, July 21 to August 3, 688 cases, 288 deaths

Turkey Constantinople, August 8, 1 case, 1 death

Turkey in Asia Aleppo, July 28 to August 12 264 cases, 93 deaths, Konia, (vilayet) July 21 to August 12, 32 cases, 16 deaths, Adana, (vilayet) July 23 to August 10, 105 cases, 49 deaths, Aleppo, (vilayet) July 24 to August 12, 98 cases, 57 deaths, Diabekir, August 5 to 12, 83 cases, 66 deaths, Hisnei-Mansur, July 28 to August 10, 87 cases, 69 deaths, Homs, August 9, 1 case, 1 death, Hudavendkjar, (vilayet) July 29 to August 12, 24 cases, 22 deaths

YELLOW FEVER—FOREIGN

Brazil Rio de Janeiro, August 10 to 17, 8 deaths

Mexico Vera Cruz, August 22 to September 5, 2 deaths

Puerto Rico San Juan, August 24 to 31, 1 case, 2 deaths

Cuba Cienfuegos, September 1 to 8, 4 cases, 2 deaths, Havana, August 29 to September 5, 80 cases, 26 deaths

NECROLOGY.

Van Buren Hubbard, M D, surgeon and major, U S A, is reported by telegram, dated September 9, to have died at Fort McPherson, Ga, at which post he has been serving as post surgeon The cause of his death is reported in the telegraphic notice as an illness of several weeks from an old trouble The regulation military funeral was held September 8, and the body, under the escort of his brother, Dr George C Hubbard, was taken to Staten Island for burial Major Hubbard was appointed to the Army from civil life and was breveted during the war for meritorious services He was from Ohio

Felix Weidman, M D, of Albany, N Y, September 10, aged 70 He was graduated from the Albany Medical College in 1847 ——F B Haller, M D, of Vandalia Ill, September 14, aged 69 He was an honored member of the Illinois State Medical Society ——J T Strong, M D, of Plainfield, Ind, September 10, aged 55 He was graduated from the University of Michigan and served with credit during the war ——Newton Herrick Ballou, M D, of Lansingburg, N Y September 9 He was born in Sheldon, Vt, in 1816, was graduated from the Jefferson Medical College of Philadelphia in 1839 He served through the war as surgeon of the 2d Regiment, Vermont Volunteers He had practiced medicine nearly fifty years, having spent twenty-five years in St Albans, twenty years in Burlington, and a few years in Lansingburgh ——James Ash, M D, of Philadelphia, September 2, aged 67 He was descended from a family which lived in this country before the Revolution, and was graduated from the Medical School of the University of Pennsylvania about fifty years ago He practiced medicine in Germantown, Pa, until the beginning of the Civil War, when he entered the service of his country as surgeon of the 1st Excelsior Brigade of New York, retaining that position until the end of the war He was a member of the Philadelphia County Medical Society, the Sons of the Revolution, etc ——Edward S Donaldson, M D, of Waupaca, Wis, September 2, aged 51 ——W P Burts, M D, of Ft Worth, Texas, September 5, aged 68 ——Willard Wright, M D, of Atlantic City, N J, September 8, aged 63 He was born in New York, and was graduated from the University of Pennsylvania He went to Atlantic City in 1872 and took an active part in the Greeley campaign He was elected mayor of Atlantic City five times and was appointed postmaster by President Cleveland during the latter's first term ——Charles S Beck, M D, of West Superior, Wis, September 4, aged 35 ——V C Mc Clure, M D, of Chicago, September 16, aged 80 ——George Spees, M D, of Milwaukee, Wis, September 13, aged 62

MISCELLANY

Denver, Colo, Medical College—The opening exercises of this college were held September 11

Petroleum in Military Hospital Laundries—According to *Public Health*, August, in one of the military hospitals of Germany, petroleum is used in washing the linen, as commonly employed in certain districts of Russia One gram is added to each litre of soapy water The cleansing is said to be more easily effected, and the linen is less spoiled and becomes whiter, while the expense is less, owing to a saving in soap. The method is to be tried in other German military hospitals

A Case to go to the Jury—The general term of the Supreme Court of New York decided June 21, 1895, in the case of Comstock v Green, that there was evidence to go to the jury This was an action brought to recover for the professional services of the plaintiff, as a physician, rendered to the wife of the defendant, which were necessary for her health and comfort The evidence in question tended to prove 1, that the defendant's negligence and ill treatment of his wife while she was ill was such as to justify her in going away with her daughter, where she could be cared for and protected, 2, that she did go away, with the consent and approval of the defendant, 3, that she needed the medical attendance and services of the plaintiff for which the bill was rendered Further than this, the court indicates no opinion, but, in holding as it does, it reverses the Allegheny county court

Medical Women in America—Commenting on the interesting address of Dr Frances Emily White, professor of physiology in the Woman's Medical College of Pennsylvania on "The American Medical Woman," Dr Malcolm Morris, editor of the *Practitioner*, is moved to remark that, of the leading women in the medical profession whose portraits and biographical sketches are being published in the *Woman's Medical Journal*, " there is not one whose name has," so far as he is aware, " crossed the Atlantic " This omission bids fair to be remedied before Dr Forbes Winslow's return to Albion Judging from the newspaper accounts the English alienist has succeeded in arousing the medical woman in America to a volubility and vehemence sufficient to carry her name across two Atlantics

A Question of Heredity—A writer in the New York *World* calls attention to the fact that family reunions—save those possibly of the Smith family—have few delegates bearing the true family name His explanation of the circumstance may be judged from the following paragraph

" A recent reunion of the Stone family held at Milford, Conn, was remarkable for its resemblance to all other family reunions in one important respect This was that the majority of the representatives of the honored ancestor bore some other name In other words, there were more descendants through female lines than through an exclusive male line This of course is a mathematical certainty In ten generations a single female descendant changes the name permanently, whereas it requires an uninterrupted succession of ten generations of male descendants to maintain the name unchanged But this is not the main point The main point is this if the female ancestry as well as the male ancestry is recognized, which is only common sense, then a family reunion ought to recognize not merely all the descendants but all the ancestors as well This country is going into the business of ancestor worship now on a scale not exceeded by China When we get to worshiping ancestors it is just as well to bear in mind how many ancestors we have They are many "

Photography in Colors—At the recent Springfield, Mass, meeting of the American Association for the Advancement of Science, reference was made by Prof W L Stevens to the progress that is being made in color-photographs He expressed the opinion that the best method had been devised by F E Ives, of Philadelphia, who had made a camera which took three negatives at once, each sensitive to one of the three primary colors which, combined make our sensations of color Prints on glass from these three negatives could be looked at in a special box in such a way as to reproduce in a wonderfully faithful manner all the original colors of an object or group of objects Within a few months, however, Mr Ives by means of three suitably dyed gelatine prints placed one over the other between plates of glass, has been able to produce a photograph which gives to the eye the natural colors of an object or landscape when hung as a transparency in the window or before a light without any special apparatus

Physicians Alone to Report Births and Deaths —Section 2600 of Vol i of Hill's Annotated Statutes and Codes of the State of Washington, requiring physicians, accoucheurs and midwives to register their names and post-office address with the county auditor of the county where they reside, and requiring them to report, under penalty of $10, to the county auditor all births and deaths which may come under their supervision with a certificate of the cause of death and such correlative facts as the board of health may require, has been amended so as to omit all reference to accoucheurs and midwives, requiring the reports to be made on or before the 15th of every month, instead of within thirty days from date of their occurrence, and making the penalty recoverable at the suit of any member of any State or local board of health, instead of at the suit of the county auditor

Diabetes as a Complication in Surgery —Leon Legendre, in his inaugural thesis—These de Paris, 1895—rehearses the gravity of operations undertaken with diabetic patients All suppuration in these subjects tends to assume a gangrenous form Systematic abstention from operating seems to constitute as great a fault as too frequent surgical intervention, the just course seems to lie between these two extremes Before performing any operation it is necessary to learn what form of diabetes is present The "lean" form—cachectic, pancreatic—does not seem capable of disassociation, with "fat" diabetics, on the contrary, it is probable that three divisions may be established nervous persons, who have become diabetic by reason of a moral or physical shock, and who manifest all the classical signs of a pancreatic lesion Next, the cases in which the glycosuria is not strongly marked and is discovered by accident, so to speak, these maintain a good nutrition for a long time—their symptoms are obscure—their personal and family histories are characteristic of arthritism Lastly, the atheromatous form of Reynier, characterized by small amount of sugar, the condition in general remaining good for a long time, with an anatomic basis consisting of atheromatous lesions in the bulbar arteries Hence, when a diabetic patient is to be operated on it is of the greatest importance—1, to seek the origin of the diabetes, 2, to analyze the urine, 3, to ascertain the state of the reflexes Bouchard has shown the relation between the gravity of the diabetes and the disappearance of the patellar reflexes As regards surgical interference in diabetic patients, the following conclusions are formulated 1, no operation of expediency should ever be performed, 2, necessity alone should force the surgeon to operative measures, 3, asepsis is more essential than antisepsis in these cases, since antiseptic agents are, as a rule, badly borne by them

Results of Operations for Cancer of the Breast —Messrs Jones and Platt, surgeon and resident surgical officer respectively, publish the results of all the cases of carcinoma of the breast, 55 in number, operated on by Mr Jones in the Manchester Royal Infirmary during the ten years 1883–1892 inclusive The ultimate results so far as learned were—deaths soon after operation 2, patients who died without recurrence 2, patients who died from recurrence 34, now living with recurrence 8, now living and free from recurrence 6, no further information obtainable 3, total 55 From a careful consideration of the facts presented the following conclusions are drawn 1 Cancer of the breast, although a formidable disease, is amenable to treatment by operation, and the proportion of cures so obtained may confidently be put down at 12 per cent 2 Non success after operation is very frequently due to the extensive character of the disease when it first comes under observation, probably if relief were sought earlier a much larger proportion of cures would be obtained 3 Moderate enlargement of the axillary glands is no bar to successful operation or to a successful issue, provided they are systematically and carefully removed and the axillary space carefully cleared 4 It is wellnigh impossible to discover trifling enlargement of the axillary glands by an examination through the unbroken skin 5 No operation for removal of cancer of the breast can be considered complete, unless the axilla be examined through the wound —the additional risk of such a procedure being very slight 6 The large number of cases in which recurrence occurs locally, points to the necessity for very free removal of tissue, all doubtful skin must be taken away and great care must be exercised not to leave any outlying portions of breast tissue 7 Operation is contra-indicated when the whole of the growth can not be removed or when the supraclavicular glands are enlarged The only condition which might render an operation justifiable under such circumstances would be the presence of a foul cancerous ulcer, the removal of which is desirable on account of the great inconvenience which it occasions[1]

Estimation of Duties on Medicines —The collector of customs at Key West, Fla, recently wrote to the Treasury Department, stating that it has been the practice at that port, in estimating the duties on cases of medicines which arrive from Havana for immediate transportation without appraisement, to estimate the duty on each article, and that as the invoices cover a great many items which are expressed in Spanish, Latin, and botanical names, and generally indistinctly written, considerable delay occurs in the completion of the transportation papers, and inquiring whether such invoices may not be properly taken up in the entry as one case of medicines and the duty estimated on the aggregate value The reply, made July 24, 1895, by Assistant Secretary Hamlin, is that if the merchandise is all of the same general character, and subject to the same rate of duty, it should be included in a single item in the entry and the duty estimated on the aggregate value as suggested and that all items of the same general character and embraced in the same tariff designation should be included in a single item in the entry

Certain Important Summer Charities of New York —Among the summer charities of New York city, much good work is done by the Bartholdi Crêche and the Sick Children's Mission The Bartholdi Crêche is on Randall's Island, opposite 120th Street The distinguishing feature of this charity is to meet the needs of poor mothers and children who can not leave their homes to go all day to any of the more distant fresh air resorts A mother can take her sick babe at a moment's notice and in a few moments reach shady groves and bracing air Last summer 4,366 mothers and children took advantage of this outing This year, so far, the average is 700 to 800 a week Trained nurses and helpers are in constant attendance Tea and pure milk are provided The crêche is one of the very many instrumentalities working for the prevention of sickness and death among the tenement house, children, by taking them away from the disease breeding influences of those parts of the city where they live, and administering to them the tonic of pure fresh air The summer work of the Children's Aid Society is the maintenance of the Children's Summer home with the Haxtun Cottage for Crippled Children, at Bath Beach, L I, the Health Home for mothers with sick infants at Coney Island, and the Sick Children's Mission, 287 East Broadway At the Summer Home there were in 1894 over 5,000 children, 3 775 remaining a week At the Health Home there were more than 7 000 mothers and infants who also received medical care 2,000 of these were kept a week, and in some instances the time was prolonged, that a permanent cure might be effected The Sick Children's Mission employed fifteen physicians to visit the tenement houses Nearly 4,000 children were treated, 5,200 medical and food prescriptions were filled, and 32 000 tenement houses visited My attention was called specially to the Crippled Children's Cottage, as the unique feature of the summer work of the society Here little cripples, mostly tion The fee for the *Tentamen Physicum* is £1 16s, for the final State examination £10 6s The fee to the university for the M D degree varies between £15 and £25

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[1] The Lancet, Aug 31 1895

Greece —A State examination must be passed, but graduates of foreign schools may take their examination in French or English

Italy —A foreigner must (*a*) obtain an authorization (*abilitazione*) from one of the Royal Universities of Italy, or (*b*) if he desires to practice only among foreigners he is at liberty to do so

Monaco —The following British qualifications are, for the purposes of medical practice in the Principality of Monaco, considered equivalent to the French diploma of Doctor of Medicine the degree of Doctor of Medicine of the universities of "the United Kingdom of Great Britain," and the diplomas of Fellow of the Royal Colleges of Surgeons and Physicians of London Edinburgh Dublin, and of the Faculty of Physicians and Surgeons of Glasgow Every application for leave to practice must be accompanied by the diplomas of the applicant or by copies of those documents, certified as correct either by a consul of the Principality or by the Mayor of Monaco The applicants must enter into an undertaking to live in the Principality and to practice their profession during the whole or part of the months of May, June July, August September and October, agreeably to Article 1 of the Ordinance of May 29 1891 Only those who send in their applications in time will be included in the official list, which is to be drawn up and distributed at the beginning of each month to all the hotels and boarding houses, where it will be posted up in a conspicuous place This list will contain the name and nationality of the practitioners and the nature and source of their qualifications

Portugal —The State examination must be passed

Roumania —A State examination must be passed (*viva voce*)

Russia —The State examination must be passed, but if the applicant possesses the degree of M D from a university of high repute the Minister of Education may give an authorization after requiring the candidate to compose and defend a dissertation

Norway —The State examination must be passed

Spain —The State examination must be passed but exemptions are sometimes granted on application through the British Ambassador A license costing from £1 to £24 must be taken out This regulation applies to Spanish colonies, (Canary Islands, etc)

Switzerland —A qualified English practitioner desiring to practice in Switzerland, even if he desires to practice only among his own countrymen, is required to pass the Federal examination in that country The degree of Doctor of Medicine does not give the right to practice The Federal examination may be passed at Basle Zürich or Berne in German and at Geneva or Lausanne in French The applicant is advised to obtain from one of his teachers in this country an introduction to a professor at the university at which he proposes to pass the examination His proper course would be to call upon the Rector of the university We are informed that every information would be afforded and that no difficulties are placed in the way of candidates At the University of Zürich, the three examinations which it is necessary to pass are held as a rule at the following periods of the year First examination end of January and mid September second examination, end of January and mid September, third examination beginning of January, end of May and beginning of October At Basle the next examinations are in October At Geneva the examinations are held in the third week of October and in the second week of July, at the opening and conclusion respectively of the winter and summer session At Lausanne the examinations take place as follows first and second examinations April and October final examination February and March, and June and July

Turkey —An examination must be passed (fee, £4 10s) at Constantinople

SOUTH AMERICA

Argentine Republic —The applicant's diplomas must be verified by the Argentine Consul in this country (fee £1 4s) This should be done before leaving this country On arriving at Buenos Ayres the indorsement of the Argentine Consul in this country must be verified by the Argentine Foreign Office Three examinations must be passed in the University of Buenos Ayres or Cordova First examination anatomy with dissections, physiology, pathology, ophthalmology, and gynecology Second examination clinical and operative surgery, histology, materia medica, and mental diseases Third examination clinical medicine, pathology, midwifery, and toxicology The fee for examination is $300, half of which is retained in case of rejection The examinations can be passed consecutively at a few short intervals or separately a rejected candidate is not re admitted to examination until after the lapse of six months The examination is conducted *viva voce* in Spanish Temporary authorizations to practice for six months may be obtained from the Governor of a province and the applicant may utilize this time to improve his knowledge of Spanish The regulations for graduates of Spanish universities are less onerous

Brazil —A State examination must be passed which is conducted in Portuguese or French

Chili —The regulations resemble those in the Argentine Republic, examination by the University of Santiago

Peru —An examination must be passed before the University of Lima, it is conducted in Spanish

Uruguay —The conditions are similar to those in the Argentine Republic, examination by the University of Montevideo —BRITISH MEDICAL JOURNAL

THE PUBLIC SERVICES

Circular—Disinfection of baggage arriving from Oriental ports at ports on the Pacific Coast.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
WASHINGTON, D C, Sept 7, 1895

To medical officers of the Marine Hospital Service, consular officers, collectors of customs, State and local quarantine officers, steamship companies and others concerned

On account of the officially reported prevalence of cholera in Hong Kong and Yokohama and other Chinese and Japanese ports, and in Honolulu, attention is called to article 5 of the Quarantine Regulations, Treasury Department, to be observed at foreign ports, issued April 26, 1894

No special provisions having been reported from these ports for proper disinfection of suspected baggage, it is hereby ordered on recommendation of the Surgeon General of the Marine Hospital Service that all unlabelled baggage of steerage passengers, including hand baggage, and all labelled baggage of said passengers, which in the opinion of the quarantine officer should be disinfected or re-disinfected, arriving from Oriental ports including ports of Hawaii, at any port in the States of Oregon, Washington, or California, shall be disinfected as provided in article 6 of the Quarantine Regulations for domestic ports, before being landed

This regulation will also apply to any other baggage which the quarantine officer may suspect of being infected

CHARLES S HAMLIN,
Acting Secretary

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from September 7, 1895, to September 13, 1895

Capt Charles Richard, Asst Surgeon, so much of S O 112, A G O May 18, 1895, as directs him to take station at St Louis, Mo, for duty as attending surgeon and examiner of recruits in that city, is revoked, and upon the expiration of his present leave of absence, he is ordered to Ft Brady, Mich, for duty, relieving Capt William B Davis, Asst Surgeon Capt Davis, on being thus relieved, will proceed to and take station in New York city, for duty as attending surgeon and examiner of recruits relieving Capt William H Corbusier, Asst Surgeon Capt Corbusier, on being thus relieved, is ordered to Ft Monroe, Va, for duty at that post

Capt William W Gray, Asst Surgeon, upon the expiration of his present leave of absence will be relieved from duty at Ft Schuyler, N Y, and ordered to Philadelphia, Pa, for duty as attending surgeon and examiner of recruits in that city relieving Capt Samuel Q Robinson Asst Surgeon Capt Robinson, on being thus relieved, is ordered to Ft Reno, Oklahoma, for duty, relieving Major William H Gardner Surgeon Major Gardner, on being thus relieved, is ordered to Ft Thomas, Ky, for duty, relieving Major James C Worthington, Surgeon

Major James C Worthington, Surgeon, on being relieved from duty at Ft Thomas, Ky is ordered to Vancouver Bks, Washington, for duty, relieving Capt William Stephenson Asst Surgeon Capt Stephenson, on being thus relieved is ordered to the Presidio of San Francisco Cal, for duty at that post

The following named officers will report in person, on Monday, Sept 23, 1895, to Col Charles H Alden, Asst Surgeon General, President of the examining board appointed to meet in Washington D C for examination as to their fitness for promotion Capt Louis S Tesson Asst Surgeon, Capt William H Corbusier, Asst Surgeon, Capt Daniel M Appel, Asst Surgeon, Capt Samuel Q Robinson, Asst Surgeon

First Lieut Charles E B Flagg, Asst Surgeon so much of S O 202, A G O Aug 29, 1895 as relieves him from duty at Angel Island, Cal and assigns him to duty at Ft Hancock Texas is revoked

Capt Edward C Carter, Asst Surgeon upon the abandonment of Ft Buford, N D will report for duty at Ft Harrison Mont

First Lieut Charles F Kieffer Asst Surgeon when his services are no longer needed at Ft Buford will be relieved from duty at that post and will report for duty at Ft Omaha, Neb

First Lieut Francis A Winter, Asst Surgeon, so much of the order as directs him, on being relieved from duty at Ft Hancock, Texas by Lieut Flagg to report for duty at Ft Grant, Ariz, is amended to direct him to so report upon the abandonment of Ft Hancock

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending September 14, 1895

Surgeon J L Neilson, detached from the U S R S "Wabash," and to the U S S "Maine"

P A Surgeon V C B Means, from Naval Hospital, New York, and to the U S S "Maine"

Asst Surgeon T W Richards, from the U S R S "Minnesota," and to the U S S "Maine"

Surgeon D O Lewis from the U S S "Mohican," and to the U S S "Marion"

P A Surgeon J E Page, from the U S S "Philadelphia," and to the Mare Island Hospital

Asst Surgeon R K Smith, from the U S R S "Vermont," and to the U S S "Philadelphia"

Medical Director A L Gihon detached from the Naval Hospital, Washington, D C, and placed on retired list September 28

Medical Inspector Geo A Bright, detached from the Navy Yard, New York, and to Naval Hospital Washington, D C

Medical Inspector A F Price, detached from Torpedo Station, and to the New York Navy Yard

Surgeon B F Stephenson, detached from the Marine Rendezvous, Boston, and to the U S R S "Wabash"

P A Surgeon J F Uric, ordered to the Marine Rendezvous, Boston, Mass

Surgeon J M Steele detached from Marine Rendezvous, New York and to the Torpedo Station, Newport

Surgeon L G Heneberger, ordered to Marine Rendezvous, New York, in addition to present duties

Asst Surgeon J H Moore, detached from the U S S "Atlanta," and ordered to the U S T S "Constellation"

P A Surgeon Philip Leach, ordered to the Naval Hospital, New York

LETTERS RECEIVED

Atkinson, W B, Philadelphia, Pa, Atlantic Medical Weekly Providence, R. I Alta Pharmacal Co, St Louis, Mo

Blubaugh, C H Parkersburg W Va, Brumder, Geo, Milwaukee, Wis

Cutter, Ephraim, New York City, Cleary W P, New York, N Y

Doliber Goodale Co, New York, N Y, Dunkel, E K, Jersey City, N J Dunshie, E J, New Orleans La

Ellegood, Robt, Delmar, Del, Ellegood, J A, Wilmington, Del Elliott, A R, Chicago, Eyre Geo G Cape Town, So Africa

Gardner, R W, New York, N Y Gessner, H B, New Orleans, La

Herrick S S, San Francisco, Cal Herrington & Son, Elida, Ohio, Herrick H C, Brocton, Ill, Hall, Geo W, Chicago, Heineman, Richard, Allegheny, Pa Hummel, A L (2), New York, N Y

Lehn & Fink, New York N Y, Love I N, St Louis

Maynard, F B, Albany, N Y Madden, Jno., Milwaukee, Wis, Mellier, K D, St Louis, Mo Montgomery, E E Philadelphia, Pa, Messman Hugo, Milwaukee, Wis MacLaury, D H, New York, N Y Mudd, H H, St Louis Mo Mann, E C New York

Newman, H P, Chicago, Ill Norbury, Frank P, St Louis

Public Library, Denver, Colo

Reeves, Jas E, Chattanooga Tenn Rosse, I C Washington, D C

Stewart F E Detroit, Mich Sawyer, A P, Chicago, Ill, Sprague, W B, Detroit Spiegelhalter, Jos, St Louis, Mo

Tipton, Joseph S Roanoke, Va Tuley, H E, Louisville, Ky

Winn Geo L, Rockford Ill Walker A B, Canton, Ohio, Würdemann, H V, Milwaukee, Wis, Ward, M R, Pittsburg, Pa

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VoL XXV CHICAGO, SEPTEMBER 28, 1895 No 13

ORIGINAL ARTICLES

ALCOHOLIC INTOLERANCE AND PREDISPOSITIONS

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md May 7-10 1895

BY T D CROTHERS, M D
SUPERINTENDENT WALNUT LODGE HOSPITAL
HARTFORD, CONN

The fact that many persons use spirits to excess at intervals, or in moderation for a life time, and from superficial observation are apparently no worse, is both misleading and dangerous In one case it conveys the impression that spirits are harmless in small quantities, and occasional excesses are of little injury from which restoration quickly follows In the second case the danger of repeated pathologic disturbances are masked until organic changes take place, and most serious results follow, that are not apparent except in other departures from health

The so called moderate user of spirits when examined critically appears differently from what he himself or friends suppose His fancied vigor and *mental health is an illusion* His freedom from pain or discomfort is the work of narcotism and diminished nerve sensibilities Constant dulling of the senses by the steady use of small doses of alcohol removes all warnings of danger, and increases the delusions of power and capacity to determine the relation of surroundings, and proper adjustment to them This goes on slowly or rapidly, and the effects accumulate, always marked and along unusual lines not recognized By and by, alterations in character and conduct appear, changes of the emotions and higher brain power, are manifest in irritability, suspicion, credulity *and instability* Then neuritis, rheumatism, indigestion and various complex neurotic disturbances appear Finally, death follows some acute inflammation or fatty degeneration of the liver or heart, or lungs Bright's disease, heart failure or the very comprehensive term neurasthenia are used to express states of degeneration, specifically due to alcohol and its accumulative effects on the cell and nerve organization

Recently Dr Pierret, of Lyons, and Dr Lancereaux, of Paris, have presented elaborate studies of the effects of moderate drinking of wine, beer and the stronger alcohols, confirming the conclusions of other physicians in a very marked way, showing that spirits in small quantities and taken at intervals, as at meals, or at stated times, is always injurious This injury is poisoning, cell starvation and exhaustion which may not be prominent in some cases or appear to materially disturb the normal relations of life and living, but its accumulative degenerations after a time break out in the next generation with great certainty This tolerance of spirits always produces predisposition in the next or succeeding generations

The capacity to use spirits in small quantities at intervals, becomes incapacity in the next generation The intolerance of spirits extends from indifference up to positive repugnance and acute poisoning Many persons manifest indifference to the taste and effects of spirits Like tobacco, at first it is repugnant, later they are not unpleasantly affected by it in small doses The increased action of the heart and circulation of the blood to the brain is pleasing within certain limits, beyond this, pain and suffering forbid its further use This is a common form of intolerance Spirits are usually taken in company, from contagion or surroundings After a certain quantity is used, the system repels it, and headache, vertigo and distress follow

This intolerance is overcome in some cases, and paroxysmal perodicity is the form of the inebriety that follows In some cases a marked taste and repugnance is common Spirits are often drank impulsively and in large quantities, with condiments to conceal the flavor In these cases there has been a natural intolerance formerly which has been overcome by repeated effort In other cases, this intolerance after being held in abeyance for a time, asserts itself in an emphatic change to rigid abstinence and bitter denunciations of persons who use spirits Many of the most dogmatic reformers who have used spirits at first, then suddenly stopped, have had naturally a constitutional intolerance of spirits This has been overcome by circumstance, principally surroundings, ill health and want of training Finally, from some unknown causes, this repelling diathesis has attained power to assert itself over the acquired taste and forced physiologic abstinence To the man, it is simply an effort of the will which he thinks all persons can use, but literally it is the operation of physiologic laws, not his will

Many very interesting cases of marked changes of living and character are made examples of theories of the will, of moral force and of faith, that are untrue and misleading

This form of intolerance may appear after the first toxic use of spirits The intoxication has created a profound impression of *antagonism to any* farther use of spirits This is both physical and mental, the pain and suffering from the action of spirits is recalled by the memory and mind so vividly, as to repel any use of spirits again Some persons will suffer from nausea and intense depression from the odor of spirits, and even the sight of an intoxicated man is painful Another class, after the first intoxication, are never able to retain spirits without causing most intense irritation and nausea I have met with cases who have used beer and wine freely for varying periods before 20, then suddenly developed an intense intolerance, and ever after suffered from severe headache when any form of spirits was taken I have seen two cases, both direct descendants from inebriate parents, who could not bear any form of spirits They suffered from functional paralysis of the stomach, ending in acute vomiting and cardiac feebleness Both of these men enjoyed the odor of spirits, but could not use it in any form

Many of these cases of intolerance for spirits are the direct descendants of inebriates Others are from some allied neurotic families, in which unusual drug sensitiveness prevails Functional peculiarities are always more noted among neurotics and tolerances or intolerances of various drugs In the normal man not weighed down by abnormal heredity, spirits would be naturally more or less intolerant This would follow from the complex physiologic action of alcohol, viz , the sudden rise of the heart's action, disturbance of sensation and perversion of nutrition that always follow from its use In a neurotic this will be concealed or exaggerated Concealed in the moderate drinker, and exaggerated in the violent opposition mentally and physically to its use The *predisposition* to the use of spirits is a direct or indirect heredity, and a neurosis from some allied condition of degeneration In other cases it is a defect due to some abnormal condition of the brain centers

The largest number of persons in which this condition exists, experience very pleasant effects from the use of spirits A sense of exhilaration and apparent physical and mental vigor, together with a certain nerve rest, and power of adaptability and enjoyment of the surroundings comes from its use The ordinary depressions and reactions from the action of alcohol on the heart and nerve centers are not prominent or noticeable, and are not regarded as due to spirits This pleasing physiologic state continues and fosters egotism and delusions of strength and power of control The constant dulling of the senses removes all consciousness of danger and capacity to judge of their actual condition Later, a variety of complex disorders appear, with changes of character and irregularity of conduct If the man lives in an automatic circle these changes are unnoticed, and he may continue a long time, only increasing the spirits for its effects If he lives in a circle of much strain and change he will become an inebriate and show marked symptoms of degeneration and disease Acute inflammations of the liver, stomach, lungs, and heart failure are common Rheumatism and neurotic disorders of very complex forms appear Inebriety appears as a rule in all of these cases Drug taking of all kinds follows naturally The delusions which begins early in the case continue with increasing intensity This is manifest in the warm defense of the moderate use of alcohol, and the delusion that spirits have some real virtue and power to help on toward an ideal physical and mental health

I have seen cases in which the mind was wrecked and imbecile in all other lines, yet clear and emphatic in defense of the moderate use of spirits This delusion clings to the mind tenaciously When the case has recovered, and a long period of abstinence has supervened, it will appear in the efforts to use spirits again moderately The physiologic impression coming from heredity, and fastened in the mind by the early exhilaration from the use of spirits, is seldom effaced The brain is permanently impaired, the predisposition for alcohol, or any narcotic drugs, has become a dominant idea that may be concealed for a time but is never broken up

A certain number of persons realize early the physiologic defect of organization, and by the most heroic efforts, avoid wreck in total abstinence In such cases certain physical conditions, and environment, are the real exacting causes If these can be obviated or provided against, they can overcome this tendency—the value of institutional treatment is to teach these physical causes and the way to avoid them, to point out the danger, not from spirits and drugs alone, but the conditions which call for the seductive effects of such drugs This is vaguely outlined in the confused literature of moralists, who speak of the battles with the demon appetite, of the sinful tendency to be overcome by prayer, of the influence of the lower nature to attain supremacy, of the natural tendency of man to go down, to become an animal, to give free reign to his lower instincts In reality this, when seen from a higher point of view, is physical degeneration, with consciousness of its presence and tendency, and expectation of being able to control it. In a certain number of cases all consciousness of the real condition is absent Paralysis exists from the beginning, in others only a partial palsy is present. In the former, delusional efforts for restoration, and delusional confidence in recovery, with continuous failures, are common symptoms, In the latter, successful and continued efforts along natural lines of cause and effect, are followed by both temporary and permanent restoration

Many men in active life, are profoundly conscious of the danger of a single glass of spirits They recognize the degenerative predisposition that is present urging them to take spirits, but overcome this tendency Such cases often appeal to me for counsel to acquire new strength for this struggle Suicide is the frequent ending of such cases, finding this craze for relief increasing and being overcome by it, give way to melancholy This predisposition and central nerve degeneration not unfrequently dies out in middle or later life Some unknown physiologic change takes place in the nerve centers and all desire or taste for spirits disappears Conditions of ill health, surroundings and other causes are inoperative He never drinks again The taste of spirits is repelling and seem to have no effect Such men often explain this as a mere effort of the will, or the power of some supernatural force, or the effect of some drug, or remedial appliance

This predisposition in other cases never dies out, but always remains slumbering and ready to be fanned into a mild flame at any moment In certain states of living and surroundings it never appears, in others, it is dominant beyond the power of control. Mental contagion, strain, irregularity of life and living, bring it into prominence Again this degeneration breaks out at distinct periods of life then dies out, only to appear in some other form The period of adolescence is often marked by alcoholic excess, which subsides in manhood, or appears in the senile stage again

There are undoubtedly certain periods of life which are favorable for the development of these predispositions to seek relief from spirits or drugs One of these periods is the menopause in women, and the senile stage in man A vast region of unexplored facts stretch out in all directions from this point. Alcoholic intolerance and alcoholic predispositions are physiologic and psychologic facts within the observation of any one They are also unknown pathologic conditions of both defective growth, and exhaustion and poisoning The normal or approximately healthy man is not predisposed to use alcohol or narcotic drugs While alcohol is not pleasing alone, when mixed in water and flavoring substances it may be tolerated, but when its effects are realized a natural intolerance begins Unlike any other drug it conceals the conditions which it provokes, until such a time when they become fixed, then repugnance begins This persistent concealment breaks out in the next generation as a physiologic bias and tendency to use the same drugs, to conceal the degeneration produced by the same causes This persistent poisoning incapacitates and limits the vigor of the next life, giving it certain impulses to exhaustion, and breaking up its power of adaptability, causes pain and suffering, which seeks relief in the same way These subtle forces of heredity and morbid impulses, whose causes are only faintly comprehended, are expressed in these terms intolerance and predisposition Along this line we need new studies

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ALCOHOL IN THE GRIPPE

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md, May 7-10 1895

BY CHARLES H SHEPARD, M D

BROOKLYN, N Y

The present form of the grippe is an infectious disease finding its way through the respiratory mucous membrane, and the resulting toxins, by their migrations, tend to induce a lasting lassitude and depression that are characteristic symptoms in many of the cases The primary cause of this disease is the susceptibility of the system This is shown by the fact that some persons enjoy entire freedom, while others succumb to its influence every time it appears

There are many conditions that favor it What is called a poor circulation is accompanied by an inability to throw off morbific influences, and persons in that condition are likely to suffer from every epidemic The same applies to indigestion, for when the body is not well nourished there is but feeble reactive force Those having a torpid liver find the grippe an added burden to the discomfort of life, and those with an inactive skin are still more likely to suffer from its baneful influence, but among the more prominent causes of susceptibility may be classed the almost universal habit of drug taking, from the mild tonics, to patent medicines Whenever one is out of order in any way, the first thing seems to be to swallow something, instead of trying to find out the cause of the trouble and seeking to obviate it by regulating the habits of life This custom tends continually to lower the tone of the system, and the more it is indulged in the more evident becomes the apparent necessity of continuing the down-hill course A large share of the deterioration of our people is due to the use of alcoholic tonics, or stimulants, as they are sometimes called The majority do not look beyond the fact that they seem to feel better after their use, but this feeling comes from the benumbing action of the alcohol itself, and never from any building up action of the drug, because it has no such action What is supposed by some to be that action is only an irritation resulting from the efforts of the system to get rid of the drug It only exhausts the vitality so much quicker, and therefore alcohol should always be considered a poison to the human system, and is already so considered by some of the highest medical authorities The cells of the brain lie buried in a nutrient plasma, and their vigor depends upon the quality of this plasma Should this become impregnated with alcohol in even a small degree, the action would necessarily be, so far, an abnormal one These cells become exhausted from their natural activity and are then shrunken, depending for renewal on rest and the nutrient plasma by which they are surrounded This has been demonstrated by experiments on dogs and pigeons Out of a number, some were killed, and on examination the brain cells were found well nourished and full, while their companions, after exercise and fatigue, showed shrunken brain cells

Irritability always follows exhaustion in a nerve cell, by whatever cause excited, and there is every reason to believe that insomnia, neurasthenia, and acute insanity are due to fatigue of the nerve cells through failure of the nutrient plasma to furnish the necessary nutriment for restoration There is a collapse that frequently comes after the use of so-called tonics and stimulants Outraged nature cries aloud for help This it is that causes so many to return to their cups The condition may be called brain and nerve exhaustion It is found most difficult to treat by ordinary methods, because these nearly all depend upon rousing up the vitality by recourse to some new irritant or drug

The strain upon the nervous energy of the individual in the pressure of modern civilization is so great that many, not knowing or realizing the inevitable result, and feeling that there is no time for rest and recuperation, seek in alcohol or some narcotic a surcease for their jaded feelings This, with some more quickly than with others, is sure to bring about a condition of neurasthenia, so aptly termed by Dr Beard a chronic functional disease of the nervous system, the basis of which is impoverishment of the nervous tissue in excess of repair, which may exist without any evidence of profound organic complication We have daily before our eyes a profusion of examples of the various forms of nervous prostration Experts can readily recognize in their patients underlying symptoms of nerve exhaustion, which their personal record showed had long antedated the expression of any distinct climax of disease

It is difficult for the ordinary mind to see the end from the beginning, for while some individuals, probably from inheritance from a sound ancestry, are enabled to ignore the laws of health for a long time, the superficial observer can point to them with pride and say "They do no harm, in moderation" Even the Royal Commission of England reports that the temperate use of opium in India should be viewed in the same light as the temperate use of alcohol in England, which according to their measure is harmful or harmless according to the amount and discretion with which it is used This is altogether too much of a commercial report It needs a commission from America, France, or possibly Germany, to get a perfectly unbiased opinion The question of the toleration of narcotics is not settled and never will be until it is settled right The consensus of medical opinion is coming more and more to the conclusion that alcohol is only and always a poison, and therefore has no place in the human economy. Such authority as Dr Forel, the famous specialist of the University of Zurich, says "Alcohol, even when diluted as in wine, beer and cider, is a poison which changes pathologically the tissues of the body and leads to fatty degeneration. I am one who assigns but a very subordinate position to alcohol as a medicine."

For these reasons we contend that alcohol has no place in the treatment of grippe, on the contrary, it is because of the too frequent use of this and other narcotics that epidemics, particularly the grippe, make such fearful headway in our land, and such must inevitably be the rule until our people study the laws of health and obey them.

The injurious and deteriorating effect of the use of any narcotic, tobacco not excepted, is daily demonstrated to those who have eyes to see. Too frequently there is to be found in the daily papers an account of the physical wreck of some young man from the excessive use of the drug. As the future of our nation depends upon the young, too much can not be done to save them from physical degeneracy. Tea and coffee also belong in the same category of irritant drugs, which by rousing the vital forces to get rid of the poison, provoke the action which is mistakenly supposed to be an added force, whereas that action is only one of self-preservation. It will readily be seen how much supporting or building-up of the system there is in such substances by trying to live on them to the exclusion of other things. The result would quickly prove the absurdity of the idea.

Having demonstrated that alcohol is in no sense a relief or remedy for the grippe, it may be well to consider briefly what remedies are offered for this disease, and the reasons why they are used, and also, what is more desirable, present a sure method of prevention and help. For instance, quinin is ranked as a powerful germ destroyer, and its use is considered by many as of paramount importance. Quinin is essentially a nerve poison and capable of producing a profound disturbance of the nervous centers. Practicing physicians are familiar with instances that are rightly accused by patients as having permanently damaged one or another of the nerve functions. A drug of such potency for evil ought to be employed with the greatest care, and never when a milder agency will equally well or better secure the result. Its tolerance by a patient is simply a test of the power of resistance of his nervous system. The increased nervousness of some portions of our population is undoubtedly due to a previous saturating of the system with this recognized anti-periodic. Exceedingly pernicious is the practice that has obtained in some sections of dosing children with this drug. It is sure to lay the foundation of a miserable neurasthenic condition in after life. Attention to the digestive tract by following hygienic and dietetic treatment is the all-important and all-sufficient course to pursue in such cases. Strychnin has been used to some extent. The drug antipyrin is also used, and whenever there is a fever that remedy tends to reduce it, and thus seems to have a good effect, but its action may be more dangerous than the grippe itself. The value of such supposed remedies depends entirely upon the vital reaction of the patient. Again, it is recommended as a *sine qua non* that the patient should be confined to the house or bed, with absolute rest, according to the severity of the attack. Certainly, the isolation of cases tends to restrict the spread of the disease, but when the best conditions are secured such a course is unnecessary.

The value of rest and passive exercise is receiving universal recognition as a means of forestalling the cause of disease and building up physiologic barriers against its invasion. Brain workers should secure at least one month's vacation out of the twelve. There is no new order of sleep, of rest, or of nutrition. Chemistry can never supply this need, and as all nerve derangement is indicative of innutrition, the first step toward recovery is rest of mind and body.

The remedy that does not draw upon the vitality, but rather conserves its force, and relieves the tortured body by simple elimination is the most desirable, and this we find fulfilled in the Turkish bath. Its first effect is to quicken the circulation and render the skin active. By this means the reactive power of the system is brought up to its highest vigor, and the action of every function is made more acute. The heat of the bath is a perfect germ destroyer, and during the sweating stage there is a continuous elimination of all poisons, and the process needs only to be persevered in and repeated until the body is freed and regains its normal tone.

Those who have had the privilege of using the hot air treatment in such cases find that it conserves all the vital powers and restores normal action by encouraging a return of the circulation to its natural condition, both in frequency and fullness, and thus gradually and surely secures the desired result. Thus the action of the Turkish bath will not only cure, but what is more important, its frequent use will prevent such diseased conditions. When a person recovers under the use of drugs he is weakened by the drain upon his vitality, on the contrary, by the Turkish bath treatment, his whole system is invigorated, and he is better able to resist all disease.

Those who are in a position where they can not take advantage of the Turkish bath, should bear in mind its vital principle, which is sweating produced by heat. A simple but effectual manner of securing this sweating is by means of the hot sitz bath, hot foot bath, or drinking hot water and going to bed and covering the body with extra clothing. After a profuse sweating, carefully bathe the body in tepid water, gradually cooling it to a normal temperature and avoiding unnecessary exposure. Many cases have been relieved by this simple treatment persevered in. By all means should the patient sleep in pure air and eat as little as possible, and that only when hungry. It is also expedient to secure an abundance of rest after the bath.

An interesting statement in this connection was published in the *London Standard*, Jan 2, 1890, written by a late surgeon of the Gold Coast of Africa, in which he says "From what I have witnessed on the continent and in London, the present epidemic which is causing so much consternation, does not appear to be true influenza. Some of the worst cases remind me of a disease I saw some years ago among the natives of the swamps of the Niger, which in them often develops into fatal inflammation of the lungs. Irrespective of disinfectants and inhalations there is a simple, effective and ready remedy, the juice of oranges in large quantities, not of two or three, but of dozens. The first unpleasant symptoms disappear, and the acid citrate of potash of the juice, by a simple chemic action, decreases the amount of fibrin in the blood to an extent which prevents the development of pneumonia "

In our opinion, therefore, the wise man is he who, with a cheerful spirit, a well-nourished and properly clothed body, uniformly seeks the purifying and invigorating influence of the Turkish bath, and when any such epidemic appears he needs only a little more fervency in his devotions to the religion of cleanliness It is an important work for us to educate the people to see and understand the far-reaching effectiveness of the Turkish bath, and when large public Turkish baths are demanded by the community, and built by the city, and the people shall have learned to live more in accordance with the laws of health, our land will be freed, not only from the grippe, but from all other forms of pestilence

Experience proves that the effect of alcohol on the tissues of the body is in every way deteriorating, while experience also proves in the most convincing manner, that the action of the Turkish bath continually tends to renew and build up every tissue We know also that alcohol interferes with the nutritive processes and hinders elimination, while the Turkish bath promotes the natural action of the nutritive powers, and by throwing off the *débris*, or used-up tissue, from the system, creates a demand and leaves room for a new supply Again, it is a fact that alcohol benumbs the nerves and interferes with the coordinating powers of the brain itself, the more alcohol the more disturbance is produced, while the action of the Turkish bath soothes irritated nerves and gives clearer and more powerful mental vision, because it renders more pure the blood that furnishes nutriment to the brain

It would seem evident to the average intelligence that the Turkish bath is a far more rational remedy for the grippe than drugs or alcohol

81 Columbia Heights

FATALITY OF SURGICAL OPERATIONS IN ALCOHOLISM

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md May 7-10 1895

BY I N QUIMBY, M D

JERSEY CITY N J

I thought it might be of some interest to call the attention of this Section of our Association to a form of rheumatism which has frequently come under my observation during the last twenty years, and which has *not* been fully, I think, recognized as a distinctive form of that disease by the profession I have had some twenty cases of this form of rheumatism during the above mentioned period

Not to take up the time of the Section, I will only describe two or three typical cases to illustrate the few remarks I have to make This form of rheumatism apparently arises wholly from the moderate but continuous use of fermented and distilled liquors and has been aptly termed alcoholic rheumatism

I think too many of us in our daily rounds in the treatment of the more common forms of diseases, are too apt, for want of time or patient investigation, to fall in the habit of a sort of routine way of diagnosis and treatment, the result of which is often unfortunate to patient and physician The first case I will describe is somewhat unique

In the fall of 1875, I was called to see Mr M , a builder by profession, aged 48, who gave me the following history

He had always been healthy and apparently well, but had been for the previous fifteen years a moderate but continuous user of fermented and distilled liquors, when he was taken with what was described as an acute attack of rheumatism in his left shoulder and elbow joint, with some hoarseness After several weeks of treatment with colchicum, iodid of potassium, etc , he recovered from the attack of rheumatism, but the hoarseness, which was considerable, still continued to a greater or less degree He remained in apparent good health for about six or seven months when he was again similarly attacked with rheumatism but with increased amount of hoarseness, articulating with difficulty The patient was treated again in about the same way by the same physician, but was relieved less promptly and was left with increased amount of hoarseness On the third attack, which occurred three or four months after the second attack, I was called to the case, not so much on account of the rheumatism, but on account of the severe attack of aphonia

No doubt but what there are cases of laryngeal rheumatism occasionally occurring, owing to its complex anatomic structure, and its location between the pharynx and the bronchi, both of which are susceptible of inflammation, separately or in connection with an attack of articular rheumatism, from which he had been suffering for over a year, not being able to speak above a whisper The laryngeal trouble apparently was the most prominent feature of the present attack

The patient had been treated by a competent and experienced physician using the most approved remedies for rheumatism and its concomitants at that time

I felt that there was some complication in the disease or deficiency in treatment, which caused a frequent return of the rheumatism, and this continuous and persistent aphonia, therefore, after a thorough examination of the case and analysis of the urine, and satisfying myself that there was no tumor pressing on the trachea or larynx, and finding that he had continued his moderate yet continuous methods of drinking alcoholic liquors, I arrived at the conclusion that it was this imbibation of alcoholic narcotic irritants which was producing some pathogenic microorganisms in the various tissues of the body, which had much to do, perhaps, with keeping up the rheumatic disturbances and the serious and persistent aphonia from which he has been suffering for over a year, not being able to speak above a whisper, and which was the most prominent feature of the present attack

I, therefore, began a reconstructive course of treatment, not by giving the general rheumatic remedies, but those of a general tendency to restore the system to its normal condition I directed that all alcoholic liquors of whatever nature should be immediately discontinued This was somewhat reluctantly, but immediately complied with Then I gave the patient 5 gr calomel, 10 gr bis sub carb ½ gr ipecac, followed in a few hours by a saline solution of Rochelle salts He was also given a saline bath, temperature 90, for ten minutes, after which he was put upon the following treatment

Bismuth sub carb	2 drams	8
Tinc nux vom	2 drams	8
Belladonna	1 gr	06
Aqua mint pip	3 oz	95
Syr P V	1 oz	32

One teaspoonful every two hours

A diet of a bland nature was ordered, soups, toast, milk, canned corn, a limited amount of fruits, stewed prunes and oranges, etc

This treatment with some variation, was kept up for two or three weeks, which was followed by marked improvement, the rheumatism disappearing in the joints and the aphonia markedly relieved

At this time the character of treatment was somewhat modified I continued the bismuth in combination with strychnin, baths, and occasionally, say twice a week, a 5 gr blue pill followed by the saline solution

At the end of three more weeks of this somewhat modified treatment, the aphonia almost entirely disappeared At the end of six months he was apparently a well man, his voice was entirely restored This patient remained practically a well man for over five years, when he again resumed his moderate drinking, which he kept up for about two years, when his rheumatism and hoarseness reappeared, although the attack was not so persistent nor severe as formerly

Recognizing that alcohol was the main basis of the disease, I directed him again to desist from the use of all fermented or alcoholic beverages After acting upon the bowels pretty freely by 5 gr calomel, bismuth and ipecac, followed by the saline solution and warm baths, I then kept him for twenty-four hours on 20 gr doses of salicylate of soda, every two hours, which relieved the rheumatism After which I put him upon the same general treatment as formerly, and in the course of three or four weeks he was again an apparently well man

I treated the patient for three attacks, covering a period of about fifteen years, for practically the same disease, with the same treatment and the same result

As he removed from our city, I lost sight of the case

The second case I will describe is a German grocer, aged 55, who had nearly all his life been a moderate drinker of the alcoholics, mostly beer, and who has had repeated attacks for the past twelve years of articular rheumatism in both ankles with more or less edema of the feet These attacks were frequently accompanied with severe lumbago He had been treated by a number of physicians, and, as he said, by all kinds of medicines, including electricity and Turkish baths, etc, but without permanent relief During all these years of suffering he had continued his moderate use of the alcoholics, none of his physicians, some four or five, had apparently realized or taken into consideration his drinking habit as a factor in the causation of his rheumatism His last attack was in the fall of 1888, when he was taken with acute rheumatic pericarditis, at which time I was called to see the case and found the patient with anxious look and suffering a good deal of pain around the region of the heart The action of the heart was irregular and somewhat tumultuous, and the sound lacked clearness the pulse was 130, with strong, quick beats, his skin dry and hot and temperature 103, coated tongue, offensive breath, etc As the pain from the pericarditis was so acute, I was obliged to resort to venesection, which gave great and prompt relief, after which I gave an active mercurial purgative I then put him upon bromid of amo 10 gr, extract belladonna one-tenth gr, with nauseating doses of ipecac every two hours The patient was kept upon this treatment until the active symptoms had subsided, when I put him upon about the same reconstructive treatment as in the former patient, previously described, interdicting all fermented and alcoholic liquors I kept the patient upon about the same treatment, and following my advice he abstained absolutely from all alcoholic liquors, when at the end of two or three months he seemed to have entirely recovered and had not been so well, as he expressed it, in ten years

He kept in good health and abstained from liquor from 1888 to 1892, then thought, as he said, that he was so well that he could return with impunity to his former imbibation of beer But after indulging in his old habits for a little over a year, he was attacked again with an acute attack of rheumatism in the right knee and ankle (with slight amount of albumin in the urine) which laid him up for two or three weeks I put him on about the same general reconstructive treatment except venesection, as previously given This treatment was continued for a month, when he apparently had recovered again, and has remained well up to the present time, although he has been compelled to become a total abstainer, as he has found by sad but valuable experience, that when he returns to his cups his rheumatism returns, therefore one of the most valuable remedial agents for this form of rheumatism is abstinence from alcoholics

I have described the above cases somewhat minutely as typifying some twenty other cases mentioned in this paper, and also to call the attention of the profession sharply to the fact that fermented and distilled liquor, although taken in moderation, was the principal factor in producing a microorganism, which so altered the blood and cell growth as to produce this species of alcoholic rheumatism Alcohol has a tendency to encourage urea and uric acid in the blood and tissues, and cause a precipitation of the uric acid in the joints in acute alcoholic rheumatism If this then is a fact, and I do not think that it can be disputed by any close observer, it would not take very much observation to recognize the fact that users of alcohol, even in a moderate way, are often very seriously affected thereby, just what form or kind of microorganism this is, or upon what organ it is deposited, or its method of generating disease, is yet far from positive solution

We are just at the dawn of a new era and in a great field of investigation A glimmer of light is being observed and some facts have already been brought forth by such patient investigators as Drs Richardson, Norman Kerr, Davis, Kellogg, Crothers, Magnan and many others, who have demonstrated that alcohol in its most imperceptible action upon the tissues and cells is a great moving factor in the production of some of the most serious and complicated diseases

What physician would be so bold or hazardous at this time as to assert that the use of alcohol even in a moderate way did not have a tendency to produce various affections, such as congestion, ulceration and thickening of the gastric mucous membrane of the stomach, which did not in its turn produce indigestion, mal-nutrition and mal-assimilation, the result of which would have a tendency to produce disease of the kidneys, pernicious anemia, cirrhosis of the liver, fatty degeneration of the heart, tubercular disease of the lungs, cerebral spinal irritation, with softening and lessening of the resisting power of the red corpuscles of the blood, producing various affections of the respiratory, digestive and nervous systems

It is stated by Dr Nordau, the famous writer and philosopher, who combines scientific knowledge with literary powers and originality of thought, that there is going on a general degeneration of the race And who is bold enough at this period of the world's history to successfully deny or refute it?

The symptoms of degeneracy are physical and mental, the physical characteristic as exhibited in the multiple and stunted growth in the first line of asymmetry, the peculiar and unequal development of the two halves of the face and cranium, the frequent imperfection in the development of the external ear which may be conspicuous for its enormous size, either clinging close to the head or protruding from it like a handle, and the lobe of which is either lacking or too largely developed and the helix of which is not properly involuted, moreover, we have the innumerable cases of strabismus, irregular angle and unequal apertures, defective and imperfect vision, hair lip, irregularity in position and form of the teeth, deficiency in the hard and soft palates, webbed and supernumerary fingers and toes The numerous forms of neuroses, the diminished birth rate, the congenital weaknesses, which I think are becoming more general among the working classes who use alcohol, whose diseased and deformed children crowd our hospitals and charitable institutions The increasing number of cases of apoplexy, idiocy and other mental disorders showing the rapid increase of the defective classes, are the fearful annual tribute paid to alcohol Who can successfully estimate the affect that alcohol has had and is having, directly and indirectly upon the tissues, in producing these unequal mental and physical developments?

While there is a great difference of opinion among medical men in reference to the direct and remote effects of alcohol upon the human organism, there can be no question but that its destructive power is very great and that it is too recklessly and perniciously prescribed

And there can be no question but that it has been fairly demonstrated that alcohol neither aids digestion, prevents disease, nor prolongs life, that it causes an unnatural flow and precipitation of the pepsin of the gastric juice of the stomach, interfering with the metabolic processes, and coagulates and hardens all the albuminoids of food, thus retarding their solvency and assimilation That it produces temporary interstitial paralysis of the vasomotor nerves of the digestive organs, which by reflex action, prevents and perverts the proper action of the ferments of the stomach, thus interfering with the digestive and assimilative processes

Alcohol has a great affinity for water and when introduced into the system interferes with the normal action of the red corpuscles and robs the blood of its due proportion of oxygen, it has no normal reconstructive power, it also prevents the proper elimination of the carbonaceous and other effete matter from the blood and tissues of the body, thereby encouraging the formation of ptomaines and other deadly microorganisms yet, notwithstanding all this there is no drug in the whole range of the Pharmacopœ that has been used with such reckless inconsistency

If the above facts are correct, is it not about time that the whole medical profession changes its bas of action and opinion in reference to the *modu operandi* of alcohol?

Chassaignac, the great French surgeon, once sai that "America at this moment wields the surgica scepter of the world" If that is so, let us endeavo to so investigate as to arrive at the exact facts, s that we may be able to disseminate the truth in reference to the destructive effect of alcohol among th people

Let us develop a national literature which shal lead the world in this momentous question, let th medical profession of this country free itself fro the old superstitions which have so long controlle it Let the facts which recent investigations have s clearly demonstrated in reference to alcohol and it painful effects, be known Let us promulgate these and carefully guard the altar of scientific truth, tha the world may see its light and be guided thereby

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SOME FACTORS IN THE SOLUTION OF TH ALCOHOLIC PROBLEM

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md , May 7-10 1895

BY J W GROSVENOR, M D

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An alcoholic problem confronts the people of thes United States Multitudes—perhaps the majority—of our population do not believe this statement Especially is this true of our foreign born residents The vast majority of them have drawn alcohol fro the maternal breast and have been educated to believ that alcoholic drinks are the healthiest that exist they see no alcoholic problem

The brewer, the distiller, the saloonist can find n alcoholic problem which will restrict their business The ordinary merchant fails to recognize any alcoholic problem which forbids a reciprocity of busines between himself and the vendor of alcoholics Th professional man searches in vain for an alcoholi problem which will offend the consciences of hi clients

The eyes of myriads of our people in looking fo this problem are blinded that they see not, and thei ears in listening for its goings are stopped that they hear not If, perchance, a representative of thes classes meets the alcoholic problem he is very apt t ignore it, and, like the Pharisee, passes by on th other side

In spite of the fact that an alcoholic problem i unseen and unacknowledged to a large extent in ou country, it *has* an existence and calls loudly for solution Its existence is recognized by many philanthropists, some political economists, and hosts of ou people who have at heart the welfare of our home and nation Its recognition as an established fact i growing into larger prominence every year

This problem will not be rightly solved until it presence is openly acknowledged by a greater number of our framers of national thought, by our foremost scientific minds, by our leading spirits in mora and economic reforms, and by a majority of the middle class of our republic For the solution of th alcoholic problem a vast amount of teaching must b done in order to establish the mere fact of its existence Unless our souls are thoroughly impregnated with a belief in the need of a reform, the voices and hands which we raise in its behalf will be weak and crippled

What *is* the alcoholic problem? Succinctly stated it is the *right* use of alcohol—its best use for all classes and conditions of people For the individual it is the use which will give the greatest aid in the development of the soundest physical organism, the keenest and broadest intellect, the purest morality, which will enable a man to make the most and best of himself, in respect to home life it is the use which will produce the sweetest courtesies and the most self-denying love, in regard to society it is the use which will insure strictest fidelity to assumed trusts and the most honorable dealings between man and man, concerning citizenship it is the use from which will emanate the noblest patriotism This is the problem presented for our solution—one of the largest and most difficult problems before the American people to-day

The Nature of Alcohol—Whoever undertakes to solve the alcoholic problem should know and appreciate alcohol's characteristics In a contest at war he is most likely to win who—*ceteris paribus*—best knows the resources of the enemy No class of scientists are more fully qualified to tell us what alcohol is and what it does, than the chemists and physiologists Over and over again, chemists who have studied it in the laboratory and physiologists who have observed its action upon the living being have declared that *alcohol is a poison* Scarcely an intelligent person can be found who is not ready to acknowledge that opium is a poison He who will experiment with both opium and alcohol on his own system will discover that in many respects the action of the latter is not very unlike that of the former Nearly every physician of a few years' practice has seen or known well-authenticated cases of sudden death caused by the ingestion of some form of alcohol Indeed, the evidence that alcohol is a poison is overwhelming, and yet not infrequently, both in word and in print, this statement is stoutly contradicted by professional men of intelligence To counteract any belief in a non-poisonous quality of alcohol it should be handled and treated as are other poisonous substances Every receptacle which contains it should be distinctly lettered *poison*, and pictured with the ominous skull and cross-bones

Alcohol is an Anesthetic—Used on the external surface of the body, the part to which it is applied becomes less sensitive to impressions, used internally in large quantities the whole system yields to profound narcosis, the body may then be bruised and pricked with sharp instruments without expressing any signs of sensation

Alcohol is a Paralyzant—Under the influence of moderate quantities the senses are appreciably affected, as proved by actual experiment, vision is less acute, hearing is blunted, touch is less sensitive, taste and smell are impaired, muscular power is weakened

Under the influence of large quantities of alcohol, the taker lies as in a deep sleep, or as almost dead

The question whether *alcohol is a stimulant or depressant* has been energetically discussed for the last hundred years A unanimous opinion has not been reached Probably a diversity of opinion is largely due to a difference of meaning attached to the term stimulant If a stimulant is that which excites mental processes and increases muscular activity, alcohol without doubt may be called a stimulant It is not difficult to observe that a person immediately after taking alcohol shows a quickening of thought and of muscular action The vasomotor nerves have become partially paralyzed, the brain and muscular fibers are supplied with a greater than a normal quantity of blood, and thus activity is increased Soon, however, the blood becoming impure, ceases properly to nourish the various organs, and brain and muscles perform their functions with abnormal slowness

The increased activity, as well as the abnormal slowness of movement, has been caused by the paralyzing property of alcohol In producing stimulation, alcohol acts as a sedative, and thus it should be called Stimulation is the product of sedation

Notwithstanding experiment has shown the reasonableness of the view here presented, it is probable that the vast majority of physicians believe the strongest quality of alcohol to be its stimulating power So long as alcohol is called a stimulant by chemists, physiologists and physicians this will be regarded by the laity as its leading characteristic, it will be used as a *sine qua non* for the promotion of strength The nature of alcohol as a poison, an anesthetic, a paralyzer, a sedative has a large place as a factor in the solution of the alcoholic problem

Taken internally, Alcohol has no Usefulness for the Healthy Human Organism—It furnishes neither material for addition to its tissues nor heat for warming it, it is neither a tissue-forming nor a heat-producing food, it has no power to build up and sustain the physical system Subjected to arctic cold or tropical heat, to the severest physical strain of the athlete, to the highest mental tension, to hardships on land and sea, man finds in alcohol no genuine aid This is the teaching of reason, experiment and experience

The internal Use of Alcohol works a Positive Injury to the Healthy Human Organism—It vitiates all the solids and fluids of the body The numerous diseases which are the product of its moderate and excessive ingestion, forcibly testify to the truth of this statement The nervous, circulatory, digestive, osseous and glandular systems profoundly feel its deleterious influence

Alcohol as a Medicine—Since its discovery, alcohol has had a prominent place among remedial agents for the sick In this rôle it has had its ebb and flow of popularity Notwithstanding a large majority of physicians recommend it as a valuable medicine, it is my belief that confidence in its remedial virtues is on the wane The London Temperance Hospital is a positive witness to the fact that all diseases can be as successfully treated and all surgical operations as successfully performed without the use of alcohol as with it The American Temperance Hospital in Chicago forcibly teaches the same lesson The long and successful experience of some of our most eminent medical practitioners, both in this country and Great Britain, bears unequivocal testimony to the same truth With almost the certainty of a mathematical demonstration it has been shown that alcohol has slight, if any, utility as a necessary article of the materia medica I predict that ere many decades shall have passed it will have gone the innocuous way of the physician's lancet

The factors thus far mentioned as connected with the solution of the alcoholic problem relate to the individual They should awaken and foster a special interest in the practicing physician As he goes his daily and nightly rounds he comes in contact with individual life, and this alcoholic problem in some form is apt to meet him at every turn On him, to a large extent, depends its solution If he believes that it exists and demands serious consideration, so will believe the families that place confidence in him, if he understands the alcoholic problem he can make his patrons understand it, if he has thoroughly studied the nature of alcohol he has the power to inspire in others an interest in its study, if he has no faith in alcohol as a constructor and sustainer of the healthy human organism, his position as a student of physiology gives him abundant opportunity to lead the indifferent and uninstructed into the same faith, if, by research and the test of experience, he has become convinced that alcohol has little or no utility as a medicine, his views will be likely to find expression in the chamber of sickness, in the medical society, in the columns of the medical journal and in every place where they are likely to produce good results, if by a life of total abstention from alcoholic beverages he shows his disbelief in their power to do good to either mind or body, his example will have marked influence on the lives of his associates The physician who does not hold these attitudes can do no better service for himself and his clients than to study the alcoholic problem anew, stand ready to accept new light on this all-important subject and use his enlarged knowledge for the benefit of his kind

The physician holds an important relation not only to individuals but also to communities and the nation He is a citizen as well as a physician and as such has a responsibility to do his share in the solution of the alcoholic problem that meets him in all the walks of life

Alcohol is an Enemy to the Home—The American home is the bulwark against anarchy, communism, socialism and all those isms that tend to undermine a respect for law, true liberty and morality No more potent home breakers exist than the alcoholized father and mother

Alcohol is Inimical to the good Order of Society—It is the forerunner of poverty, crime and immorality The social cup, the treating glass lead on to social discord and vicious conduct Alcoholized society is society undermined, disorganized, ruined

The wide spread Use of Alcoholic Beverages in a Nation is a Menace to its Integrity and Life—To a large extent a nation must depend for its stability upon the physical soundness of its citizens Alcohol has been aptly termed, " the genius of degeneration " Its degenerating influence on the national body may be slow but it is sure Several generations may pass before its work produces an effect which is glaringly visible At length, however, the national mind will be invaded, mental processes become weakened and disordered, judgment beclouded and unbalanced, cowardice is substituted for courage, the baser faculties win control, the vision and vagaries of the national intellect, partially alienated, are transmuted into legislative enactments, the execution of law becomes feeble and erratic, the nation is hurried far along on the highroad to ruin, it stands tottering on the brink of despair and ready to plunge into the depths of disaster or destruction

The Relation of Heredity to Alcoholism—From the earliest historical periods, heredity has been recognized as a cause of alcoholism Aristotle declared that a "drunken woman brings forth children like unto herself," and Plutarch declared that "drunkards beget drunkards " All along the historical road may be found abundant testimony to substantiate this truth The evidence in favor of it is as clear and strong in respect to alcoholism as in respect to insanity Although many of the students of the alcoholic question may not believe in the direct hereditary transmission of this disease, they acknowledge that a constitutional tendency to it may be hereditarily transmitted Alcoholized ancestors may transmit to their descendants, not only an irresistible craving for alcohol, but also many defective conditions of mind and body Through these defective conditions, alcoholic habits may be acquired which have their outcome in seriously degenerated descendants Thus it is seen that from the view-point of heredity the solution of the alcoholic problem has a large place in its relation to the physical and mental soundness of the race The alcoholic problem is a racial problem

Permit me to call your attention to one more factor which relates to a solution of this question *I refer to the use of alcohol in our public charitable institutions, especially in general and insane hospitals* The annual bills for alcohol in its varied forms in many of these institutions is so large that they suggest great extravagance and ill-directed use A large per cent of insanity is the result of alcoholic drinking Very many of the inmates of general hospitals are the victims, directly or indirectly, of alcoholic excesses I fail to see the reasonableness of treating such cases with alcohol Perhaps it is done on the principle of curing the bite with the hair of the same dog The superintendent of the London County Asylum, Banstead, Eng, a hospital for the insane, has made this statement "Since the withdrawal of beer from the dietary the rate of recovery has gone up During the past year (1893) for example, the recoveries reached 46 97 per cent These inmates take their food better without the liquor "

If alcohol has little or no genuine usefulness in the treatment of disease, I can see no valid excuse for spending annually in any one of our largest hospitals several thousands of dollars for alcoholic liquors Such expenditure for the whole country must amount to an immense sum for a single year and for a series of years doubtless mounts up into the millions To my mind, this is a vast waste for which the taxpayer has good reason to complain

The factors presented in this paper, as related to the solution of the alcoholic problem, are only a few of the vast number that exist and meet us at every turn of life They have been massed here without any attempt at special discussion or detail, in order to exhibit the magnitude of this problem which reaches out into almost all avenues of individual and national life

If science and experience teach that the internal use of alcohol is unnecessary for the healthy human organism, has scarcely any or no utility as a medicine, is a producer or instigator of scores of diseases, lays the foundation for crime and immorality, strikes with a destroying hand the home and the virtues of well-ordered society, threatens the peace, prosperity and permanency of our republic, we, as physicians and citizens, are called to consider and intelligently act upon the questions whether it shall not be suppressed from our list of medical remedies, banished from our persons and home life as a beverage, and whether by the responsible positions we occupy we are not bound to teach by the wayside and in public the destructive nature of alcohol, and to enforce our views upon the public mind with all the energy at our command

If, on the other hand, we have some slight belief in the efficacy of alcohol as a tissue-builder or blood warmer, we should advocate its restriction to the narrowest possible limits

I am confident that we shall not make great advance in the solution of the alcoholic problem until, as a profession, we have earnestly declared to the people again and again, the lessons which during the last few decades have been taught by investigation in the laboratories of the chemist and physiologist and by observation at the bedside of the sick

A new era will fully dawn upon our nation when alcohol in minimum amount is used as a remedial agent for victims of disease, and as a beverage for the healthy human organism shall cease to exist

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PRACTICAL LIFE INSURANCE EXAMINATIONS

Read in the Section on State Medicine at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore, Md , May 7-10, 1895

BY JOHN L DAVIS, M D

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My justification for asking your attention to a subject that may appear trite and perfectly familiar to you is the fact that while physicians are receiving as fees from insurance companies and cooperative associations about $2,500,000 per annum, they are not in every instance giving a *quid pro quo* I understand fully and we all agree that members of the AMERICAN MEDICAL ASSOCIATION always give a *quid* much bigger than the *quo*, but it is the doctors who are not of us that I shall describe My remarks will not apply to the strictly technical part of the examination, for I feel that after fifteen years' work in examining applicants' lungs and hearts and kidneys I have too much yet to learn to warrant my giving you instructions in physical diagnosis Hence for the sake of avoiding argument I will assume that every man who has a diploma is *ipso facto*, a good diagnostician I will admit this, though the medical director of every company is chagrined, perhaps daily, to find what manner of report is submitted to his office by doctors who hold diplomas as good as his own, but in the aggregate we may say that examiners do remarkably well and no complaint as a rule is called for So we will let that pass That is the part of the subject not to be touched by this paper But some suggestions will not be out of place as to the practical element in the examination, as to those features which disclose the examiner's business acumen, social tact, "horse sense" and understanding of human nature As far as my experience goes, it is here that the doctor is possibly more often at fault than in diagnosis The ideal examiner for an insurance company must not only be competent and skilled in diagnosis, but he must be tactful and approachable, willing to display a sympathetic camaraderie, putting the applicant at his ease and by his manner relieving him of restraint which is inimical to a satisfactory examination, and at the same time he must sincerely appreciate the agent's position, he must do his work skillfully, but at the same time promptly and in a business-like way and by his manner, if not by word, commend the applicant's motive in taking insurance, incidentally, perhaps, speaking well of the company and a good word for the agent And all this must be honestly done, hypocrisy will not pass, the fraud will be detected The examiner must honestly and earnestly believe in insurance and in his company, and must fully sympathize with the agent in his difficult task. He can do all of this without sacrificing his dignity as a physician, nay, such sympathetic genuine interest in his fellow-man adds a dignity to the profession which nothing else can do

I recently attended an underwriters' meeting and one subject under discussion was "The Fool Doctor" I can not understand why I should have been invited, when a fool doctor was discussed, but I was there. And the agents painted a picture of the doings of the fool doctor until I blushed for my profession What does the fool doctor look like? Well, like any of us most, but it is what he does and says He stands on the corner and tells people he is going to examine Mr Crœsus next week for the Jumbo Tontine Somebody gives a pointer to the agent of the Bonanza Life Company and he quietly has Mr Crœsus examined this week, and, as insurance men say, the Jumbo Tontine holds the bag,and the fool doctor wonders how it happened But sometimes the fool doctor reaches the applicant before the other company gets him and then the conversation opens up like this: "Ah, Mr Crœsus, I want to examine you for the Jumbo Tontine, don't ye know I always feel a little afraid of those big companies and carry my own insurance in the Picayune Promiser which is going to do first-rate some day, and is much cheaper than the Jumbo" And so forth Mr Crœsus hesitates, not having been fully and soundly converted and tells the fool that he is pretty busy this morning and will call at the doctor's to morrow, and to-morrow, you know, never comes, nor does Mr Crœsus In many little ways the fool doctor shows his right to the title He forgets his pen or his bottle or his examination blank even I have actually known an examiner to forget the examination blank And he must call again to complete his report And the interim between the calls! Oh, how it is fraught with dangers from within and without! Mr Crœsus' wife may get his ear (for conversational purposes I mean), I have noticed the combination of Crœsus and the fool doctor is often completed by that kind of a wife At all events, through some internal or external cause, Crœsus will change his mind and the other company, or I may say the goblins, "will get him if you don't watch out" All companies aim to secure as examiners, men not only of professional skill and integrity, but of sound judgment and insight into human nature, for these extra professional attainments constitute a most important safeguard for the company Very different indeed are the relations between the examiner and applicant on the one hand, and the physician and patient on the other The patient is anxious to fully disclose his symptoms and diseases, present and past, his habits and family tendencies, he will communicate every unfavorable element which his case involves But when the same man is an applicant for insurance, often the most minute and searching inquiries are needed to reveal what in the other case would have been eagerly disclosed This reticence is in most cases explained by failure to appreciate the importance of information sought in the insurance examination But sometimes, unfortunately, facts are withheld or misstated with the deliberate purpose of deceiving the examiner There is need, therefore, of the greatest tact and skill in drawing out and properly weighing every feature required for a perfect report Skill in physical examinations, integrity, good judgment and tact in dealing with men are the qualifications of a first class examiner Every appointee should aim to possess these requisites, realizing that a single fact improperly or incompletely set forth in the examination may involve the company in an unwarranted loss of many thousand dollars, or may, on the other hand, cause the rejection of a desirable risk who is rightfully entitled to insurance

The examiner should at all times be mindful how fully the home office is dependent upon his individual examinations for final decision And he should feel that in the responsible work of selecting safe risks for the company, the examiner is the direct representative of the medical department, he should realize fully that the duties of examiner and medical director are complimentary and cooperative, and, hence, our mutual relations should always be most cordial and confidential

The examination should always be made in private When alone with the examiner the applicant will answer more freely than otherwise on matters unfavorable to himself Explanations of a private or personal nature should always be treated as confidential, which is impossible when a third person is present Another reason for this requirement is that it relieves the examiner from the annoyance of outside dictation and interference with the applicant's statements The examination is a matter strictly between the applicant and the medical representative of the company, and no third person must be permitted to interfere

In meeting the applicant, the first essential is his identity, if not personally acquainted with him, the examiner must assure himself beyond a doubt that the man he examines is the party whose signature appears on the application The attempt is sometimes made to substitute a healthy man for the examination which the applicant himself could not pass, owing to bad health Hence, the need of identification

A great deal may be learned about the applicant before the physician reaches the strictly physical examination The examiner should note in the first place his gait, attitude, expression, manner, etc He will observe whether the eye is bright or dull, the complexion clear and healthy or showing signs of dissipation, disease or premature decay All of these points will be noted at a single glance by the experienced physician

The applicant may be unduly nervous, especially if not used to being in a doctor's office The examiner's manner should be reassuring and calculated to inspire confidence and frankness The applicant must be at his ease during the examination, so that the pulse and respiration may be tranquil and the answers freely given without embarrassment of any kind

As preliminary to the detailed examination it is a good plan to question the applicant as to his residence and occupation, and learn whether the surroundings are sanitary or otherwise, whether the employment is healthful or hazardous, etc Facts may be incidentally obtained in the party's business or domestic arrangements, suggesting the question of so called "moral hazard" Particulars can be learned as to drinking habits and other vices tending to shorten life Often specific questions will not elicit information nearly so well as will a frank conversation casually covering the points at issue

There is perhaps no need of reminding physicians of the disastrous results of excessive drinking But the practical effects of alcoholism come with such striking force in the death losses of insurance companies that a few words to the examiner on this matter will not be amiss There is no other topic of inquiry in the examination which calls for as great skill on the examiner's part as does this question Applicants often are apparently unaware of the amount of alcohol they are ingesting, the most detailed and careful inquiry is therefore needed to get the facts A person who drinks and inherits the taste for liquor is not safely insurable

A difficult question is, to what extent can a man drink without shortening his life? It is an undisputable fact, as has been proved by the experience especially of foreign companies, that total abstainers, other things equal, are the most desirable risks It must be remembered, however, that abstainers who have formerly been hard drinkers and are "reformed" are not first-class risks, with them there remains the damage done the organs by alcohol as well as the possibility of a return to the old habit

It has been shown by Anstie that when an ounce and a half of alcohol or less is taken in twenty-four hours it is not found in the excretions If, however, more than this amount is taken, the excess is eliminated as alcohol, showing that whatever may be the effect of an ounce and a half, more than this amount is excessive and can not be appropriated by the tissues Even a less amount may be dangerous, if occupation or surroundings favor a stronger habit The form in which alcohol is ingested is an important consideration The stronger drinks, as whisky and brandy, are usually the more dangerous, this is certainly the case when taken on an empty stomach Furthermore, the regular drinking of a moderate amount is often not as serious as the occasional ingestion of a greater amount with a period of abstinence following, to be again followed in a few days by another round of free drinking Examiners should, therefore, clearly state the manner of drinking, whether regular or occasional, as well as the approximate amount and kind of drink used

Free drinking leads directly to disease of the liver, kidneys and heart inflammation, hypertrophy, fatty degeneration, etc All organs and tissues are weakened and the free drinker is less able to resist any intercurrent disease which he contracts He is more liable to accident, to suicide, or other violent death, and in every way is an undesirable risk These are the dangers beyond the limit indicated But, undoubtedly, for many men the danger line is below the figures given by Anstie

The importance of searching inquiry into this habit is evident No company wants heavy drinkers, whether the habit is regular or only occasional and as a rule, the less a man drinks the more favorably is he regarded by insurance companies Examiners are, therefore, urged to investigate this question most thoroughly in every applicant examined, remembering that among drinkers we will accept only the most moderate, and even these are regarded with disfavor

A few words on the family history with its bearing upon the risk is next in order, for the character of the risk is affected more or less by the mortality and morbility of the family history In some cases the applicant in feature and physique bears a striking resemblance to father or mother, sometimes to a more remote relative Often, however, the resemblance is not clear or appears to be blended Where there is close physical resemblance we may assume a corresponding similarity in internal organs and tissues, and the inference is reasonable that diseases and tissue changes will affect such persons approximately in the same way In this assumption we have the basis for the important part which heredity plays in life insurance Many diseases are recognized as hereditary, though when transmitted they may appear in a form or manifestation different from that experienced by the ancestor For instance, many authentic cases are recorded illustrating the interchangeability of consumption, cancer and scrofula In other words, hereditary transmission is not always characterized by the specific germ of the disease, but rather by a tissue weakness or susceptibility manifested by some allied pathologic condition Diseases recognized as hereditary in the sense described are consumption, cancer, scrofula, syphilis, insanity, alcoholism, epilepsy, gout, rheumatism, diabetes and Bright's disease

Some of these diseases are so commonly recognized as hereditary that occasionally applicants are on their guard when there is a family taint and will make every effort to conceal such instances in their report, knowing how seriously the true facts would impair the risk Often, therefore, such innocent terms as "malaria," "typhoid fever," or even "old age" (perhaps suspiciously premature) are reported as causes of death, where the actual cause was consumption or cancer Great pains are usually taken by the applicant to show that every case of consumption in his family is acquired—not hereditary Sometimes an assumed ignorance will report "Don't know" as a cause of death, where the facts positively indicate transmissible disease Experienced examiners are familiar with all such subterfuges, and know that these evasions or indefinite terms are unfortunate for the applicant and are regarded with suspicion by the company The examiner should, therefore, use every effort to get at the facts in such cases, basing his answer upon a full inquiry into symptoms, clinical history, etc The same care should be exercised when a member of the family is stated to be in "poor" or "moderate health", the cause must be clearly indicated Sometimes an evident effort is made to offset unfavorable features in the family history by attributing marvelous longevity to grandparents and other far-off ancestors

It may not be necessary to caution examiners against relying too implicitly upon statements made about remote ancestors, unless a reliable family record is at hand Many persons of middle age can not give trustworthy information about their grandparents

The points suggested represent the common experience of insurance companies The examiner should, therefore, first satisfy himself that the history reported is as full and accurate as can be had, then he should state his answers clearly and positively If the examiner is capable and alert he will not report a death from congestion after a six weeks illness, nor a death from "pneumonia" without cough as a symptom Though these are ostensibly statements of the applicant, it is the examiner's place to supervise them and not permit statements to be made that are obviously improbable and conflicting

Before forwarding his report, the examiner should see that every question upon the form is answered. He should remember that this written examination is all the information the medical directors have upon which to base their action The examiner will understand how difficult this decision sometimes is, if, having dismissed the applicant, he will put himself in the medical director's place, and with only the written examination before him try to decide the case He will, under the circumstances, often see the need of further particulars to clear up some point at issue Such supplemental statements are of great value, and are appreciated at the home office

Apart from the detailed examination, anything in the applicant's appearance or manner or surroundings which impresses the examiner unfavorably should be noted The amount of insurance desired may be far beyond the limit justified by the man's circumstances or station in life, or the examiner may feel that the party is urged to insure for speculative purposes by designing relatives or persons having no legitimate interest in his insurance All such matters come within the scope of the report and should be fully stated A confidential letter may be sent to the department by the examiner at any time and will be duly appreciated

In rating a risk the examiner should bear in mind that the final decision rests with the home office. His action should be based on the applicant's personal appearance and examination together with his habits, occupation and surroundings The bearing of his past record and family history should perhaps be left largely to the medical directors, who sum up all the items in the case The most satisfactory classification is such as is indicated by phrases like these: "Superior, personally," "Average, except bad surroundings," "First-class, except for rheumatism," "Good, aside from drinking habits"

In conclusion, attention may be called to the fact that sometimes the decision in a case made by the home office differs from that anticipated by the local examiner It should be understood by the examiner that such differences by no means necessarily reflect upon his judgment and character as an examiner. His view is limited to the single case, or at most to a few similar cases, while the judgment of the medical directors at the home office is based upon a large aggregation of cases identical with that submitted. As a diagnostician, the examiner may be perfectly correct, but as a rule the home office with its collated evidence and statistics is in a better position than he, to judge as to how much a man's expectancy may be affected by past or present personal conditions in connection with a given family history In other words, the examiner deals with the individual, the medical director with the class, making indeed such exceptions as large experience has seemed to warrant.

THE DEPOPULATION OF CIVILIZED NATIONS

Read by title in the Section on State Medicine at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore Md , May 7-10, 1895

BY H B McKLVEEN, M D

CHARITON, IOWA

You see the title I have given to this paper is the depopulation of civilized nations Probably it would be more proper to put it, the cessation of increase of population, for it is not so much the causes that depopulate, that I wish to speak of, as the causes which hinder the increase of the population,

It seems that the people of all civilized nations have in matters relating to the perpetuation of the species become subject to some influence, which as the nation becomes cultured prevents its increase They seem to be approaching the same finale that characterizes a certain variety of butterfly which attains the perfect state and then dies

In this country the subject does not receive the attention it merits, in fact it only attracts the notice of medical men, and then not as a condition which may confront them, but rather as a curiosity

In France a great deal of attention has been paid to this matter In 1891 one-fourth of the papers submitted to the Academy of Sciences were upon this subject The result has been that active efforts have been made by legislation to increase the number of births and to protect the lives of those that may be born

In most European countries reliable statistics exist by which we can determine the ratio between births and deaths, but in the United States we have no very exact figures with which to compare ourselves with other countries

France in 1890 had over 100,000 more deaths than births

England, though not so bad, showed a greater mortality than natality

Germany makes a better showing than any nation of Europe, except Austria In Germany the births slightly exceed the deaths

In Austria the natality is 65 per 1,000 of the population and the mortality 49 per 1,000

In 1880 in the United States there were born 37 per 1,000 of the population, while in 1890 the rate had fallen to 29½ per 1,000

This condition existing as it does in times of peace, when there is neither famine nor plague to increase the mortality and with every effort made by science to lengthen life, becomes really alarming

With compulsory vaccination to prevent smallpox, better hygienic conditions in our cities, a greater knowledge of sanitary laws and the advancement of medicine and surgery, the mortality has decreased in all countries In France, alone, the deaths have in twenty-five years decreased over 100,000 annually

What is the cause of this falling off in the number of births? We should expect an increase, since science has done so much to rob child bearing of its horrors

Demographers differ as to the cause Among those mentioned are the late age at which the young people are now married This decreases the fertile period, the obstacles in the way of legal formalities, the financial embarrassment of large families, the exactions of military service, the unequal emigration of adult celibates, the tendency of people to go to the cities to reside, unhygienic modes of living, the common practice of abortion

In our own country not all of these mentioned causes can be held accountable, for instance, there are very few legal formalities connected with marriage

Compulsory military service is unknown in our country, but in continental Europe every young man has to serve a certain part of his best days, and it is a decided hindrance to his marrying as soon as he otherwise might

At the present time, marriages are consummated at a much later age than formerly This is due to several reasons the lengthened educational course is one, the young men and women of to day are just finishing their education at an age at which their parents became father and mother

Of course education is a good thing for the individual, but our present systems of education seem to be playing sad havoc with the birth rate and this will be more noticeable in the future, because of the fact that education is becoming more general Another cause might be mentioned the young men feel the necessity of having something ahead in a pecuniary way, in order that they might begin their married career in a manner commensurate to their former method of living

We are living in an age of luxury, and things that were considered luxuries in the past are necessities at present

Bunyan, the author of the immortal "Pilgrim's Progress," said that when he and his wife were married they had neither pot nor spoon betwixt them How many couples at the present day would marry under such conditions, which up to fifty years ago were common enough?

At the present time, with few avenues to wealth open before him, the young man is very much older by the time he has sufficient laid by on which to marry than were his ancestors

One of the most potent causes of the decrease in births is the tendency of people to flock to the cities Children which are an actual source of wealth to the man in the rural districts, become a source of expense to the urban resident This causes them from necessity to limit their families I might mention the desire of parents to give their children exceptional educational advantages This causes them, when only of moderate means, to wish that they have but few children, especially if they are to distribute their favors equitably

The wealthy are best able to properly raise large families but, as a rule, they are the ones who have the fewest children The social pleasures which the rich women can enjoy cause them to abhor maternity, because it interferes with their imagined happiness Among the poor in the cities, children are particularly a great burden, for it is often necessary in order to live, that the wife shall leave home to labor, and this she can not do and raise a family

1 I might here state that only one-fifth of the women are able to nurse their offspring as nature intended No wonder that 26 per cent of the children die in their first year, for no food man can compound is equal to that nature provides Why this inability to nurse children? In the first place, the waists and breasts of our women are compressed by tight lacing, tight clothing, corsets, stays and all that is necessary to make a fashionable figure This causes chronic induration of the breasts, and has a tendency to prevent secretion and in many cases abscesses form

2 The lungs are so compressed as to prevent proper oxygenizing of the blood

3 The abdominal and pelvic organs are so displaced that digestion is impaired and the pelvic viscera are in a state of passive congestion with all the attendant evils, rendering the woman unable to furnish the proper nourishment for her child

Women have until very recent years been taught that they should do nothing which compelled them to come in contact with the public Now all is changed, and we find women engaged in nearly every vocation What is the result? They take the place formerly occupied by men, at a much reduced salary The consequence is that thousands of men who did earn good salaries are now filling the ranks of the army of the unemployed Five thousand clerks, bookkeepers and stenographers were fed daily at the soup kitchens in Chicago during the winter of 1893–94, whose places are now filled by women Had these men kept their positions they would have married, perhaps had a family of two or three children The women who engage in these vocations do so at the expense of their domestic education

I will now mention another cause of reduced natality—a cause that, did it not exist, we should have much less reason to look with alarm upon decreasing natality I have reference to the common crime of abortion So prevalent is this practice that I doubt if an audience of laymen of any size can come before a speaker, but that he faces some one who is guilty of this crime

Charpentier relates an incident of a doctor in France who was indicted for this crime and confessed to having produced over five thousand abortions Suppose that one-half of these had attained adult life There would be enough to make a city of 2,500 inhabitants Again, suppose that some catastrophe should happen that would kill every one of these people What an appalling disaster this would be! The whole world would hear of it Pages in the newspapers would be devoted to it Every one would mourn the loss But when one man slaughters 5,000 of the innocents, we only know of it as an incident of medical importance

In France the practice is much more common in proportion to the population than in our own country, due perhaps to the lower moral status of the people It is estimated that in France alone half a million abortions are annually produced I have never seen statistics relative to the number in our own country

Upon what the demographer based his calculations I can not say The figures may or may not be too great, but we do know that were there no criminal abortions produced, there would be little probability of the race becoming extinct

I have asked a number of physicians how often they are approached by persons desirous of having them produce abortions The average was twice a month Were this true the country over, this would mean that the physicians of the United States were asked 3,120,000 times a year to produce abortions The same individual may ask twenty different doctors before finding one who will do the work Millions and millions the world over are annually produced and we hear but very little of it

I have now spoken of the principal causes of the decrease in the number of births I might say I have diagnosed the case Now, what treatment should be employed? For one thing, this crime should be denounced by the clergy How often have those of you who attend church heard scathing denunciations from the pulpit upon such minor crimes as the use of liquor, tobacco, etc , *ad infinitum* Did any of you ever hear the crime of abortion mentioned, and yet I doubt if any minister can look down on his congregation when two thirds of the pews are filled, but that there is some one within hearing of his voice who is guilty of this crime A clergyman asked a doctor I know why he did not attend church He replied he was in better company when with the loafers on the street "How so, doctor?" said the clergyman "Well," answered the doctor, "when in church I see so many who are guilty of having committed abortion, which is a form of murder, who seem to take such an active part in church work that it seems like a travesty on religion, and so I stay away When I am with the loafers I am with immoral men, but not murderers"

The doctor may have been too hard on them or else he possessed an intimate knowledge of the community, but such is often the case, those whom you least suspect are most guilty

It should be a part of the religious and moral training of every young man and woman to be made aware of the heinousness of this crime Every mother who calls herself a Christian should teach her sons and daughters that it is murder and nothing else Murder in its worst form, for it is unprovoked and premeditated Better a thousand times had she who thinks of doing this crime let nature take its course and let her bury herself in obscurity, be she single, until she can again mingle with the world France has many public maternities where these unfortunate women can go, and they use them too, for one of every eight children born in that country are illegitimate

A true physician should consider it an insult to be approached by any one desirous of having him produce an abortion Some doctors in refusing seem to apologize for so doing It is within the power of the physician to do much toward stopping this practice of abortion, by showing up the criminal phase and the physical dangers

The newspapers, the great educators of the people, should refuse to advertise for these abortionists who by carefully worded personal notices inform the unfortunate where they can get relief In one issue of the Chicago papers, I found over a score such notices Although it is against all law, yet no convictions take place worth mentioning and when they do it nearly always savors of blackmail

The educational methods should be changed, so that the student may receive physical training and hygienic knowledge You can not have a sound mind in an unsound body A lack of domestic education leaves the woman unfitted to make a home what a home should be, and much discomfort and unhappiness may result from such ignorance Girls should be taught that woman's sphere is, first of all, a domestic one, her first duty is to her family and her home What man would desire a woman who knew nothing of domestic duties?

The tendency of people to flock to the cities is one of the things that work to decrease population and one of the hardest to remedy Farm life is gradually becoming more attractive and we may hope that the future may change this migration Thousands in the cities are merely existing, who have strength and ability to prosper in the country if they would be willing to sacrifice their love for the city's hustle and bustle

In France every method has been tried to increase the birth rate A premium paid for each child born, taxes regulated so that the man with a large family would have less to pay, maternities established, but all in vain Despairing of attaining an increase in birth, they now seek to preserve the lives of those that are born Laws to preserve the little ones have been passed It is a misdemeanor punishable by very heavy fines to give a child less than a year old any solid food, save by physician's orders I doubt if legislation will ever do much to remedy these conditions We can at best only hope that an evolution may take place, but for the present and immediate future, I think that the theories of Darwin and Herbert Spencer will hold good

The increase of natality is in inverse proportion to the efforts of the individual to climb the social scale, and the development of a nation in numbers is in inverse proportion to the refinement and social ambition of the individual

ENTERIC FEVER IN INFANCY

Read in the Section on Diseases of Children at the Forty sixth Annual Meeting of the American Medical Association at Baltimore Md May 7-10 1895

BY WM B NOYES, M D

NEW YORK

The subject of typhoid fever in infancy is one which has been much discussed, recently and in former years, but it is brought up again for new study because of the great uncertainty which still exists in the minds of many in regard to its occurrence, the indefiniteness of most of the literature on the subject, and the very great importance which the exact knowledge of typhoid fever must always have in all its different phases

In medical literature, recent and old, some authorities of high repute speak of having seen scores of cases in early infancy and childhood and consider the disease not uncommon The other extreme is represented by Northrup, of New York, who is exceedingly skeptical of its occurrence in infancy His belief is based on his experience in the last twelve years at the New York Foundling Asylum where 1,800 children constantly under observation living inside and outside of the hospital, liable to every possible exposure which New York city can furnish, have never at any time developed a single case in children under 3 years of age

Dr O'Dwyer, with twenty years' experience in the same institution, has seen nothing of it The physicians of the New York Infant Asylum, a smaller but active children's service, have never observed it The Nursery and Child's Hospital does not record it The Children's Hospital of Philadelphia, the largest service in the United States, according to the statement of the resident physician, Dr Page, has never had a case of typhoid fever in early infancy

With these statements and the negative records of most institutions in this country in regard to the occurrence of typhoid fever at this age, you will realize that it is necessary to study very carefully the following statistics which I have collected from the entire medical literature on the subject, after which a careful discussion may enable us to reach more positive conclusions than have hitherto been possible

I —TYPHOID FEVER IN ENGLISH EPIDEMICS

1 In London epidemics, according to the *British Medical Journal*, 1882, there occurred in 1870–71, 126 deaths under 5 years of age, or 18 per cent of all cases In 1880 there occurred fifty eight deaths under 5 years, or 13 per cent of all cases In 1881, eighty-three deaths under 5 years, or 8 per cent of all cases

2 In an epidemic in Stockport, England, 1890, there occurred 218 cases, 8 of which were under 5 years of age

3 In Southend, Essex, from January to October 1890, out of 152 cases, 65 per cent occurred under 15 years, 13 per cent under 5 years, including a male infant under 1, nine boys under 5

4 Murchison reports in 5,911 cases of typhoid fever in the London Fever Hospital fifty-eight cases, thirty-four females, twenty-four males, under 5 years of age

5 St Thomas Hospital Reports record from 1878 to 1880, 3 cases under 5 years, out of 124 cases of typhoid fever

6 St Bartholomew Hospital Records from 1875–80 report out of 113 cases of typhoid fever 9 under 5, with 1 death

7 Homerton Fever Hospital Records show an average of 2 1 per cent of their cases of typhoid fever from birth to 4 years, 11 24 per cent from 5 to 9 years

8 The Metropolitan Asylums Board, of London, representing nine fever hospitals record from 1871–93, 266 cases of typhoid fever under 5 years, with 33 deaths

Of cases older they report From 5 to 10 years, 1,143 cases, mortality 102, or 8 9 per cent , 10 to 15 years, 2,019 cases, mortality 265, or 13 1 per cent , 15 to 20 years, 1,955 cases, mortality 346, or 17 per cent , over 40 years, 338 cases, mortality 96, or 29 3 per cent

The Northwestern Hospital alone, from 1889 to 1893, had 101 cases of typhoid under 5, with 9 deaths

II —EPIDEMICS OF TYPHOID FEVER ON THE CONTINENT

1 Gassicourt, out of eighty-five cases of typhoid in Hospital Trousseau, Paris, records three cases from 1 to 2 years, eight from 2 to 5 years, thirty-four from 5 to 10, of which fifty-five were mild, twenty-two moderate, eight severe, and four fatal, or 4 6 per cent. (*Rev des Maladies de L'Enfance*, 1890)

2 In Berlin, 1878 623 deaths from typhoid were reported, of which 98 were under 5, 39 from 5 to 10, (Keating, Arch Pediatrics)

3 In Heidelberg, from 1861 to 1879, Roth in the *Arch fur Kinderheilkunde*, 1881, reports eighty-two cases in the Luisenanstalt and Polyclinic under 15, five under 5 (one in the first year, three in the second) thirty cases from 5 to 10 These are epidemic cases

4 In Gerhardt's *Kinderkrankheiten*, vol I, page 50, Wolff states that in an epidemic at Erfurt, 23 6 per cent of all fatal cases occurred in children From birth to 1 year, 7 5 per cent , 1 to 2 years, 12 7 per cent , 3 to 5, 42 per cent , 6 to 10, 28 2 per cent

5 In Basel, out of 2,213 fatal cases of typhoid fever, between 1824 and 1873, from birth to 5 years occurred 108 cases , from 6 to 10 years, 85 cases (Same authority)

6 Barthez and Rilliet (*Maladies des Enfants*) studied 1,113 cases of typhoid which passed under their observation , of these 90 cases occurred from 2 to 4 years, mortality 25 per cent , 176 occurred from 5

to 7 years, mortality 26, 349 cases occurred from 8 to 11, mortality 37 deaths, 498 cases occurred from 12 to 15, 68 deaths

7 Archambault (*Gaz Med de Paris*, 1880) out of 165 cases under 14, reports two cases at twenty-one months, nine from 2 to 4 years, seventeen from 4 to 6

8 Griesinger out of 510 cases in Zurich, between 1850 and 1863, reports 3 3 per cent between 1 and 9, 20 1 per cent between 10 and 20

III —AMERICAN STATISTICS OF TYPHOID EPIDEMICS

1 Report of Board of Health, Michigan, 1884, records an epidemic of thirty-one cases, all but six under 9

2 Pennsylvania Board of Health, in 1885, reported an epidemic of 1,071 cases, 220 cases under 10 years, including 4 infants 1 year old, 14 infants 2 years old, 10 infants 3 years old, 24 infants 4 years old, 27 infants 5 years old, 31 infants 6 years old, 33 infants 7 years old, 42 infants 8 years old, 404 cases from 10 to 20 years, 260 from 20 to 30

3 In Providence, R I, in an epidemic in 1883, reported in the *Boston Medical and Surgical Journal*, 1883, out of 200 cases, 15 occurred between the ages of 1 and 5 years, 32 between 6 to 10

4 In the Windsor, Vt, epidemic reported in the *Medical Record*, 1894, out of 130 cases, 24 occurred from 3 to 10 years, three cases under 3 years

5 In the Montclair epidemic, 1894, to which I shall again refer, 115 cases, 8 being infants under 3 years of age

6 In *Boston Medical and Surgical Journal*, 1888, Holyoke reports an outbreak of typhoid in the Home of the Boston Children's Friend Society of fifty children above 6 years, thirty-five were sick with typhoid, of fourteen children from 4 to 6 years, six were attacked, of ten under 4, one was attacked

These statistics, selected with care from a mass of less reliable reports, absolutely prove that during epidemics, typhoid fever is very common in childhood, and that in the first five years of life it occurs in a regular proportion of cases quite as frequently as one would expect from the special diet and care infants receive If we have been free to a certain extent from these epidemic cases in America, it simply indicates that we have guarded the children better than they have abroad

IV —DOES TYPHOID FEVER OCCUR IN INFANCY EXCEPT IN EPIDEMICS?

In the *Medical Record*, March, 1895, Stowell published an elaborate table of eighty-five cases under 3 years, representing all the available sporadic cases, of which the diagnosis is strictly reliable Gerhardt gives a series of twenty cases, Henoch thirty-five, Earl, Christopher and all who have written on this subject have reported cases Some are entirely trustworthy, others not It is not of very vital importance for our discussion to give a detailed account of these isolated cases The question is not whether cases of this disease have at rare intervals been observed, but whether in cases always passing before us, especially in the class of intestinal troubles with a continued fever, that appear so frequently in clinics and general practice in the summer, there are not quite often genuine cases of typhoid fever in infants overlooked

The diagnosis wrongly applied may be malaria, gastro-enteritis, broncho-pneumonia, tuberculosis or meningitis For this reason a very careful consideration of the symptoms is necessary

V —PATHOLOGIC LESIONS

A study of the ordinary lesions of typhoid fever as it appears in adult life need not detain us In infancy, all the abdominal viscera will be found more or less congested The spleen is enlarged and swollen to far beyond its usual size The entire mucous membrane of the intestine is congested, especially in the Peyer's patches and in the solitary follicles, which increase in size through proliferation of the lymphoid cells, forming what Henoch and Reilliet called "plaques molles" This hyperplasia may be followed by fatty degeneration of the new formed cells, terminating in resolution, or it may develop into what they call "plaques dur," which indicate that an infiltration of the entire follicle and the tissues beneath has taken place This stage may be followed by exfoliation of superficial epithelial cells, necrosis, ultimate formation of ulcers This swelling of Peyer's patches occurs earlier in children than in adults and is sufficient to make the patches protrude beyond the mucous membrane in projections which are frequently the seat of little excoriations, which may later develop ulcers and sloughs, as occurred in twenty-nine out of forty-four of Gerhardt's post-mortem examinations But in infants this simple hyperplasia generally clears up without ulcerations, which Vogel, Friedleben and other authorities claimed never to have seen under 5 years Henoch found ulcers thirteen times in 23 autopsies out of 239 cases of typhoid fever in young children, and noticed that they were generally small, shallow, occupying a part instead of the entire Peyer's patch All this process inevitably causes the mesenteric nodes to swell as in lymphatic infections in other parts of the body The swelling is not a condition peculiar to typhoid fever But it is more marked than in almost any other intestinal trouble

The pathologic changes in the infantile cases, while distinct, are much less severe than in adults It is a very interesting fact that in a series of animal inoculations with typhoid bacilli by Santerelli (*Annals de L'Institute Pasteur*, 1892-1894) the changes in the intestine and other viscera were almost identical with those we have just described in children These experiments consisted of a series of inoculations of rabbits, guinea pigs, white mice and monkeys with pure cultures of the Eberth bacillus, and were followed by a second series of experiments of inoculations with sterilized filtered products of the Eberth bacillus The results were similar in the two cases Swollen hyperemic spleen, congested intestine, diarrheal intestinal contents, infiltrated and congested Peyer's patches, red and hypertrophied solitary follicles Hardened microscopic sections of the intestine showed a change in the epithelial lining, especially, and detachment of masses of epithelial cells together, such as occurs in a poisoning by arsenic or other corrosive drugs Enormous infiltration of Peyer's patches occurred, abundant accumulation of lymphoid cells in and around the follicles and invading the submucous spaces This change was not a simple hypertrophy of lymphatic plaques, but a condition just short of a beginning purulent infiltration No typhoid bacilli could be found in these Peyer's patches in the animal, but enormous numbers were seen in the adjacent lymphatic glands and in the connective tissue of the mesentery From these experiments, Santerelli comes to the conclusion that typhoid fever produced in animals is by preference an infection of the lymphatic system, and the toxin produced by the Eberth bacillus causes the anatomic lesions These changes occur in all mucous surfaces and we should expect to find in both animals and in man, lesions in the mucous membrane of the mouth, larynx, bronchi and stomach with resulting symptoms, which occurs very frequently Typhoid fever can no more truly be called a disease of the intestine than smallpox of the skin, though both have their characteristic lesions in those places

V —DIAGNOSTIC SYMPTOMS

The symptoms in adult life are familiar The following symptoms may be regarded as characteristic of the cases in infancy

1 Any long continued fever that will not yield to appropriate doses of quinin should suggest typhoid, especially if of gradual onset, high in the evening, and when no existing condition of the throat, lungs or bowels offers an explanation It is more suggestive if remaining continuously high for several days, increasing a little each day for three or four days, yielding after several days of observation some resemblance to a typhoid chart And if the continuous high fever is well borne by the child, as Jacobi first noticed, with so little prostration perhaps that the child will play around, it is still more suggestive of typhoid fever

2 The second symptom is gastro intestinal disorder, especially when a decided tendency to constipation is present, putrid stools, of an especially offensive character and odor, if there is diarrhea These, when only seen on the diaper, may not look very different from the green spinach stools that occur in other diarrheas, because the fluid is soaked up on the napkin If seen in a vessel, the thin, semi-fluid character, greenish yellow particles, and all the characteristics of a typical peasoup stool are present If there is trouble with insufficient digestion of milk, the lumps of undigested casein or other food will somewhat change the appearance The lack of acute symptoms of an intestinal nature is more characteristic of typhoid than are violent symptoms

Henoch noted normal movements in 26 out of 233 cases, absolute constipation in 23, and in 184 cases, first, constipation, succeeded by diarrhea about the end of the first week Vomiting may or may not occur Loss of appetite is present from the beginning A tongue coated with yellowish or brownish white, or red at the tip and sides, sometimes moist, generally dry, will be noticed It may be so heavily coated and the entire mouth so affected that a condition resembling aphthous stomatitis may be present, which in one case in the Montclair epidemic first led the family to call in a physician

But the condition of sordes is far less frequent in infants than in adults The tongue may vary from day to day, the excessive dryness of the tongue, with foul odor, the coating of the lips and gums, and rhagades is a later condition, keeping pace with the advance of somnolence and severe nervous symptoms

3 In addition to the fever and intestinal symptoms, an examination of the skin may yield the lenticular rose spots familiar in ordinary typhoid These may come early or late, or in two or three crops, and are to be expected in most cases in children Stowell found them in 66 per cent of his cases Cadet De Gassicourt in the same proportion Earl in all his cases but three Henoch in nearly all Ashby in thirty nine cases out of fifty, or 78 per cent Roth in thirty seven cases found them present, in forty-three absent

4 Symptoms of headache frequently occur, which a baby will indicate by rubbing or picking at its head, nose or ears, or burrowing its head back in the pillows, but not by active cerebral symptoms, which would characterize meningitis As the disease goes on, these head symptoms will frequently increase

5 Enlarged spleen is very important when found, but not always to be accurately demonstrated in a young child, especially if tympanitis is present A painful spleen is a more important point The spleen ought to be felt below the border of the ribs to be pronounced enlarged, percussion not being a satisfactory test According to Eustace Smith, it begins to enlarge by the sixth or seventh day and is soft and tender, the change being simply hyperemia, not a production of new tissue

6 Tympanitis is sometimes excessive, but in most recorded cases moderate This swelling is due to the accumulation of gas through decomposition of food and inability of the bowels to expel the gaseous contents in consequence of loss of nerve power or local injury from ulceration The more ulceration the more distension

7 Bronchitis seems to be as regular a symptom as in measles, agreeing with the pathologic changes, redness and swelling of the bronchial tubes generally found, but the breathing is, later, too superficial to make râles It has been demonstrated that the bronchial mucous membrane excretes the Eberth bacilli and its products, or is at least irritated by it The younger and sicker the children, the less the cough, as the sensibility of the mucous membrane is so blunted that mucous accumulates in the posterior and lower parts of the lung, diminishing resonance but causing no new real pneumonic dullness Pneumonia in these cases is rare, Roth in eighty-four cases having four, Henoch very few

8 The author has seen angina twice, and finds that Henoch, Eustace Smith and Parrot mention its occurrence in infants In 6,500 cases of typhoid fever in St Petersburg, Ouskow notes that in 5 per cent of the cases there was marked redness or ulceration of tonsils Gassicourt states that in the Paris epidemics, 1865 and 1882, sore throat was very common, but in other epidemics, 1876 for instance, it was rare In the cases in children the occurrence of sore throat when found will generally confuse rather than help the diagnosis

9 Epistaxis, according to Keating and others, is as rare in children as it is common in adults I find it occasionally reported Hemorrhage from the bowels seems to be rare in childhood and infancy

10 Neither in children nor adults can the Eberth bacillus be demonstrated in the stools until the tenth to the twentieth day (Chantemesse, Santerelli,) it is doubtful whether reliable bacteriologists have as yet succeeded in demonstrating this in the stools in infants A number of excellent authorities have never been able to do this even in adults Though it has been claimed both in infants and adults, more recent methods make it doubtful whether older observers may not have at times con-

fused the bacillus coli communis with Eberth's bacillus The stools will, from the outset, be swarming with all sorts of bacteria, especially the bacillus coli communis It seems to be true that as the typhoid fever progresses, these ordinarily innocuous bacilli assume a more virulent character and multiply enormously, but if the Eberth bacilli can not be found in the stools in children, they frequently can be demonstrated in the lymphatic tissues and spleen In the same way, in the animal inoculation experiments of Santerelli, the stools never seem to contain the Eberth bacillus, while the spleen and the lymphatic system have numbers

11 The study of the blood in typhoid fever may yield some results of value It will certainly exclude malaria I note results reported by Loisan, Simonin and Arnaud, of examination of blood from the finger in 241 cultures made from 65 adult typhoid patients In a few cases the Eberth bacillus was found alone or associated with staphylococci In forty-five cases, staphylococci alone were found (*Rev de Med*, April, 1893) But the Eberth bacillus is not a regular blood parasite, being in all cases found much more abundantly in other parts of the body These authors have also pursued similar investigations in fresh urine and in the buccal secretions, finding Eberth bacilli in a few cases

12 There are not commonly marked kidney symptoms, though transient albuminuria in the second week or after the end of the fever may occur

13 Relapses are infrequent, but at times occur

14 Ehrlich's test, which is yielded only by typhoid miliary tuberculosis, septicemia and cancerous cachexia may assist in the diagnosis

COURSE

The disease seems to appear in three forms, an abortive type of short duration, a type resembling ordinary adult typhoid lasting about three weeks, and a malignant or prolonged form These bear to one another about the same relation as varioloid, ordinary variola and malignant variola in its more fatal form The cause of these variations may be the anatomic difference in the extent of the lesions, *i e*, whether there is simple congestion, or some considerable infiltration of new cells, or ulcerations varying in size, depth or number But going further than these gross changes, the occurrence of the Eberth bacillus alone, or its occurrence together with other pathogenic microbes and their ptomaine products, may be the more important condition which determines in which of these three forms the disease may appear In other words, not how extensive is the change in the coats of the intestines, but how much actual poisoning is taking place? And if the lymphatic theory of the disease is true, the intestinal changes are merely the result of the severity of the disease, not the cause

The convalescence in children is, as a rule, quicker and less complicated It is evident from the different series of cases of typhoid in childhood that autopsies are not very abundant Stowell in his list of eighty-five reliable cases records but twenty-four autopsies Hoelscher reporting 2,000 typhoid autopsies in the *Munchner Med Wochenschrift*, January, 1891, reports but eight under 10 years, two being babies of two and nine months respectively Even in epidemics affecting many children, very few deaths occur This seems to me to indicate that, as a rule, typhoid is a much milder disease in childhood than in adult life, as many infants may pass through it with less severe and distinct symptoms than adults present

Out of 265 cases of typhoid fever treated in the Manchester Hospital for sick children, Ashby noted a frequent tendency to an abortive or two weeks' course While from 2 to 12, the mortality was 10 per cent, he found as a rule, that the children were rarely acutely ill Though indicating their disease with rose spots, remittent temperature, rounded abdomen and other symptoms, they would frequently be playing around the room and show little prostration

Jurgeson, in the Transactions of the Sydenham Society, makes a study of eighty-seven cases of abortive typhoid, sixteen terminating from fourth to seventh day, nineteen from eighth to tenth, twenty-four from eleventh to thirteenth, twenty-eight from fourteenth to sixteenth He holds that if the pyrexial state lasts longer than the twenty-sixth day it is probably due to a progressive ulcerative enteritis Henoch, out of 190 cases in which he could calculate from the beginning with some degree of certainty, found 11 cases that lasted from seven to nine days, 11 cases ten days, 17 cases eleven days, 8 cases twelve days, 45 cases thirteen to fifteen days, 15 cases sixteen to seventeen days, 25 cases eighteen to nineteen days, 39 cases twenty to twenty-three days, 14 cases twenty-four to thirty days, 1 case thirty-five days

Gerhardt regards it absolutely demonstrated that these abortive cases are frequent, indicating a light and incomplete working of the typhoid fever on the infant organism He holds that it is characterized by some degree of suddenness in the onset, at times beginning even with a chill And this, with the rapid increase of the temperature, seems to portend something of a dangerous nature The spleen swells early, roseola comes early, and the abdomen is usually protruded and sensitive The fever may drop rapidly and the child soon become convalescent

Reilliet and Barthez in *Maladies des Enfants*, in 837 of their cases of typhoid in young children which recovered, find a longer duration, 47 lasting from eleven to fourteen days, 298 lasting from fifteen to twenty-one days, 317 lasting from twenty-two to thirty-one days, 133 lasting from thirty-two to forty-five days

In the 143 fatal cases which they report, 4 lasted five days, 6 lasted two days, 33 lasted eight to fourteen days, 40 lasted from twenty-two to thirty-two days, 18 lasted from thirty-two to forty-five days, 12 longer

Yet the diagnosis of these abortive cases must inevitably and at all times be difficult, from the insidious onset and irregular character of all the symptoms, and for awhile, at least, if there is diarrhea, a diagnosis of gastro-enteritis will adequately explain all symptoms, if there be constipation, or merely occasional movements of altered or putrid stools, a diagnosis of ptomaine poisoning from some undigested fermenting substance in the intestines will also account for all the symptoms And this is not really a false diagnosis It merely does not state what is the bacterial agent that causes this ptomaine poisoning

To illustrate this, I will give a history of a case of my own already published (*Medical Record*, July, 1894)

An infant aged eleven months was brought to me (had been staying for a ten days' visit in Montclair, N J where he had been weaned and fed on unsterilized cow's milk diluted with barley water On his return to New York he was fretful, restless and had a slight temperature of 102 degrees, attributed by his mother to cutting teeth, but had nothing else characteristic in his condition Slight bowel trouble with colic *For two days he seemed to improve a* little, though still with a slight fever, on the third day the temperature was 102 6 degrees, A M, 103 8 degrees P M, and for the first time he appeared very sick Moderate diarrhea with colicky pains, coated tongue, occasional vomiting, negative chest signs Diagnosis, gastro enteritis On the fifth and sixth *days the temperature* was 102 6 A M, and 101 P M Frequent stools of foul odor, tongue coated white, with red tip and sides Lungs gave only physical signs of bronchitis Great fretfulness Hands brought frequently to head, as if suffering great pain There were no other definite symptoms

After another day of slight improvement the child was taken back from the city to Montclair During the two weeks which had elapsed since *he had left Montclair about* fifty cases of typhoid fever had developed, and this time it was publicly recognized that the origin of every one of these *cases was due to one cause alone, the polluted milk served* to the families in all cases by one dairyman, who had himself had two cases of typhoid in his family one month before, *and had infected his well* and washed the cans and bottles, if not watered his milk, with the infected water The baby had fed for ten days on this milk The combination of symptoms which the child had developed, of high and continued fever during the past week, the tongue with clean margin, the character of the stools, the absence of other symptoms, all suggested a diagnosis of typhoid fever On the eighth day temperature was 101 pulse 160, respiration 25, stools four Rose spots appeared on the abdomen very distinct, disappearing on pressure

A second case of typhoid, the nurse of the baby, was detected at this time She had used the same infected milk A third case of an aunt of the baby appeared a day after, and other cases in the neighborhood and milk route to the number of 150 occurred

From this time the case followed a fairly typical course, with exceptionally severe nervous symptoms Death in fourth week from exhaustion

I failed to make a diagnosis of this case, until confirmed by the epidemic, and yet it seemed to me that this history of the early symptoms has something characteristic in it which will help in making diagnoses, in an abortive case that goes no further than the first or second week

The later history in this case followed a course which I find not at all uncommon in recorded cases of typhoid in infancy, characterized by certain symptoms which simulate meningitis At the beginning of the third week, following a little gastric irritation, vomiting and general irritability increased, the temperature rose 4 degrees There developed a stiffness of the neck and back which reached, after a time, a condition of opisthotonos Incoordination and continued movement of the eyeballs, great hypersensitiveness to sound, light and touch especially in the head Irregular and at times convulsive movements especially marked in the left arm and leg Continued twitching of the fingers, a peculiar cry, a rapid, feeble and irregular pulse, 160 to 180, rapid respiration This seemed almost certainly an acute meningitis Careful examination of the case, and consultation with one of the most reliable authorities on children's diseases in New York, made it seem probable that this was not an acute meningitis 1, fontanelle was not elevated, 2, the child was bright enough to take notice of its surroundings, 3, no tache-cerebral, 4, no boat-shaped abdomen, 5, no expulsive vomiting, 6, photophobia, hypersensitiveness to sound, were not sufficient The entire condition, acute as it seemed, was judged to indicate a passive congestion of the brain caused by the weak heart, and an attempt was made to remedy this condition by heart stimulation which proved successful after a few hours, there being no return of those cerebral symptoms during the remaining days of the case

This history suggests cases of Henoch with tremor, and stiffness of the extremities with frequent jerking or twitching, which showed no brain lesion at the autopsy Also one where there was contracture of both legs and right arm and continued grinding of teeth Autopsy with only slight changes in the brain, also one of a little girl who showed distinct stiffness of the neck, later, actual opisthotonos and marked contracture of the neck, but on autopsy showed no brain lesion Another case in the Montclair epidemic of Brown, which I reported with other cases in the *Medical Record*, 1894, showed marked nervous symptoms, great restlessness, tossing of head from side to side, rigidity of muscles of neck, opisthotonos, almost complete blindness for five days, strabismus at times, hydrocephalic cry, complete recovery after twenty-eight days

In Gerhardt's *Kinderkrankheiten*, Soltmann speaks of this condition After intestinal symptoms have almost entirely disappeared, symptoms indicating motor irritation, such as twitching, contractures, light convulsive symptoms, later genuine convulsions, succeeded by stupor as death approaches, even aphasia and paralysis have been noted Autopsy in these cases excludes meningitis, as well as encephalitis or neuritis The observers agree in considering the actual cause to be anemia or a diseased condition of the blood, or else excessive weakness in its circulation

Simon (*Gaz des Hopitaux*, 1886,) thinks that the *congestion always present* in spleen, lungs and other organs in these cases of typhoid is always more or less present in the brain, cord and meninges, and he thinks that edema of the brain is the chief cause

Reilliet and Barthez (*Maladies des Enfants*) refer to a case at fourteen months, with convulsions, preceded by general irritability, agitation, strabismus, contracture of the neck and limbs, a condition which lasted three days Autopsy indicated sero-bloody effusion in and under the arachnoid Of their 143 fatal cases, 5 showed thick serous exudate, adherence of membranes, softened brain substance, or, in other words, were genuine meningitis In nearly all cases of this nature on record, however, simple hyperemia is all that the autopsies develop These cases all belong to the third or malignant type The condition is more than a simple change in the circulation or in the character of the blood It means a more or less absolute overwhelming of the nerve centers by a poison, whether this be the product of the Eberth bacillus or other bacteria

There are a large number of cases of typhoid in infancy reported from time to time, with inconclusive clinical histories, which are very definite on the subject of the changes in the intestine found on autopsy, which are called "undoubted typhoid lesions," because they yield swollen and ulcerated Peyer's patches, enlarged mesentery, lymph nodes and other similar changes Are these lesions always peculiar to typhoid fever, or do they occur in other intestinal diseases? Northrup exhibited to the New York Academy of Medicine, an intestine showing all these changes coming from a child sick for only a few hours with some acute trouble, positively not typhoid fever He asserts that he has frequently met with this condition in autopsies Dr Seibert agrees with him He explains, and I think justly, many of the so called typhoid lesions in this way It is desirable that a very careful consideration of pseudo-typhoid intestinal lesions be made, for it brings up a condition which is not recognized by our existing classifications of intestinal diseases It is not impossible that the name, enteric fever, if it does not include more than one distinct disease, may possibly be a disease of more than one cause That is to say, beside the cases undoubtedly caused by the Eberth bacillus, there may be other elements at work, whether bacillus coli communis, or the bacteria connected with milk infection which produce an analogous condition Whether it will, at a later day, become possible to clearly distinguish these divisions is impossible to say

The later stages of typhoid fever after the formation of ulcers when they exist, are essentially a septicemic condition from the poisoning by various bacteria and their ptomaine products, but more especially by streptococci It is certain that, as the disease progresses, the Eberth bacillus becomes less numerous and the streptococci and staphylococci more numerous The picture of the disease, then, is indistinguishable from the condition so common in severe, long-continued gastro-enteritis, or milk infections which we observe in summer

Vincent, in the *Annales de l'Institute Pasteur*, 1893, studies this later and secondary condition of infection by a combination of Eberth bacilli and streptococci In the bacteriologic examinations from the spleen and other organs, in thirty-one autopsies of typhoid cases he found six times streptococci associated with typhoid bacilli He regards the typhoid patients peculiarly exposed to streptococci infection, since the system in a great measure has lost its resisting power, and only an angina, parotitis, otitis, or some other source of pus is needed to start this double infection Even the saliva contains numerous streptococci, and ulcers in the intestine may permit absorption Furunculosis is common

He examined forty-one abscesses occurring in typhoid cases, and in thirty-two he found staphylococci, pyogenes aureus or albus, and found that these cases happened to recover In eight cases he found the Eberth bacilli also, five of which cases died He claims from his test that typhoid bacilli and streptococci, combined, cause a more virulent poisoning and thus a special danger to the patient In a fatal case of typhoid fever with rose spots and clear history, on autopsy he found very slight lesions in Peyer's patches and intestinal follicles, spleen not much swollen, and in the different organs typhoid bacilli and streptococci

In a series of animal inoculations he found that injection of the Eberth bacilli cultures, alone, was followed by an active phagocytosis, but injection of Eberth bacilli and streptococci together was followed by no phagocytosis, the animal eventually succumbing to this double infection This, though only a limited work, opens up a new field of investigation in typhoid fever, and a possible explanation of its characteristic course and exceptional features

Our present state of knowledge will perhaps enable us to decide that these aborted and short cases, with their early symptoms as described, are more purely the result of simple infection by the Eberth bacillus, while the later course, in common with the condition occurring after gastro enteritis or milk infection, may become a simple streptococci infection or a septicemic condition

This conclusion is simply analogous to conditions present in other diseases

The severity of an attack of diphtheria varies largely in proportion to the extent the infection by the Loffler bacilli is complicated by streptococci

In scarlet fever the same is true, and in tuberculosis of the lung, as Prudden has so forcibly demonstrated, the lesions and symptoms vary according to the complication of tubercle bacilli with streptococci

In conclusion, we would once more emphasize that typhoid fever in early infancy in a typical form is rare in this country, though not uncommon abroad It is in a mild or abortive form that we must look for it here, if we wish to separate it from other intestinal or meningeal diseases that may appear

And, lastly, when we have a case which is severe and prolonged, we may see in it not the result of the simple infection by the typhoid fever bacilli, but a complication by other pathogenic bacteria

162 W 73d Street

TYPHOID FEVER IN CHILDREN

Read in the Section on Diseases of Children, at the Forty sixth Annual Meeting of the American Medical Association, at Baltimore Md , May 7-10 1895

BY JOHN ELIOT WOODBRIDGE, M D
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Typhoid fever is the same disease, is produced by the same causes and is governed by the same laws, at whatever time of life it may occur, from earliest infancy to the frailest anility, modified as it may be, by age, by organic development, by concurrent affections, or by extrinsic causes, and probably by the quantity of poison ingested In the child as in the adult, it is caused by the same morbific influence, which can be neutralized by the same antidotes In either instance the patient should be regarded and treated simply as the container of the specific poison

It follows, that notwithstanding the minor modifications which the character of the disease may undergo, on account of age or other causes, that it is amenable to practically the same curative treatment in infancy as in adult life

I must, therefore, make the same declaration here that I have made in every medical society before which I have discussed typhoid fever since 1880, viz , that every case can be aborted and that death is a wholly unnecessary consequence of the disease, and farther, that these results are attainable by a treatment so mild and gentle that, should the newborn babe be given the dose intended for a robust manhood, no harm would result, or should the child, overfond of its medicine, take at once the portion intended for fifty doses, it need cause no anxiety

Yet, symptomatically treated, typhoid fever is one of the most serious affections of infancy and early child-life, and in the most alarming forms of the disease, in which the fever rises rapidly to an excessive height and the nervous symptoms point to some grave cerebral lesion, the true character of the ailment is rarely recognized in time to benefit the patient Indeed, in a very large majority of these cases a correct diagnosis is never made Therefore, while treating of typhoid fever in the adult, my pleading has always been for an *early* diagnosis In discussing typhoid fever in children, the burden of my plea must be for a *correct* diagnosis, since the disease in babyhood is so frequently overlooked

While Murchison and other eminent authorities have recognized and acknowledged the possibility of the *occurrence of typhoid fever in earliest infancy*, and even during utero gestation, yet neither the best text-books, the teachers in the medical colleges, nor the general practitioner have realized how frequently the disease occurs in desperate forms during early childhood

Reynolds' "System of Medicine" devotes more than seventy-five pages to typhoid fever and does not mention the disease in children in the whole article Pepper's "System of Medicine," in five large volumes, justly praised wherever the English language is spoken, yields less than two dozen lines out of more than one hundred pages on typhoid fever to the disease in children Professor Osler, whose "Principles and Practice of Medicine," is perhaps more largely quoted than any other work on the subject, disposes of typhoid fever in children in less than one dozen lines, and this is the author who said "Cases (of typhoid fever) coming on with severe headache, photophobia, delirium, twitching of the muscles and retraction of the head are almost invariably regarded as cerebro spinal meningitis" And again "I have thrice performed autopsies on cases of this kind, in which no suspicion of typhoid fever had been present, the intense cerebro spinal manifestations having dominated the scene Cerebro spinal meningitis is, however, a rare disease, typhoid fever a very common one, and the onset with severe nervous symptoms, is by no means infrequent Fully one half of the cases of the so called brain fever belong to this category"

But while medical literature has recognized the possible predominance of the nervous symptoms of typhoid fever in the adult, it has failed to give due warning of the frequency with which these symptoms occur as the most prominent manifestations of the disease in early childhood, an omission which has been responsible for many errors in diagnosis and treatment

In the first number of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for this year, a distinguished professor of the diseases of children, says that "It has been my good or ill fortune to see during the past ten years, a number of cases in children under the age of 2 years, which presented mild intestinal disturbance, no marked tenderness over the bowels, a very high temperature, and where the apparent cerebral complications, delirium and stupor being prominent symptoms, were the apparent cause of death In these cases, in the death certificate, the cause of death was usually given as congestive fever or meningitis Two of these cases occurring within the past year, in both of which the post mortem examinations revealed a pronounced error of diagnosis, has emphasized in my mind the thought that typhoid fever exists more frequently in early child-life and in a serious form than is generally suspected I present the following case

"A little girl of eighteen months, the child of a very prominent physician, was taken sick early in May, with marked *intestinal disturbances*, *the evacuations* from the bowels were frequent and copious, accompanied by mucus and blood The temperature ranged from 102 to 104, and on one occasion reached 105 degrees There seemed to be a history of acute indigestion The usual treatment was applied in this direction, and the temperature was controlled by cooling baths Flushing of the colon with medicated warm water was applied, followed by starch water injections containing a few drops of laudanum, for the purpose of calming and reducing the frequency of the operations which interfered with sleep During the early part of the attack, the child, though having frequent operations, was noticed to be calm and gave no evidence of pain Not until the fourth day, however, was marked obtundity observed and the staring appearance of the eyes, together with the indifference to surroundings, impressed me with the fact that there was a cerebral complication The course of the treatment was continued and the supposed cerebral complication became more pronounced Inability to distinguish light or sound, and a crossing of the eyes, apparently justifying a diagnosis of meningitis The child died about the tenth day Post-mortem examination developed the absence of meningeal inflammation and the presence of ulcerations of the glands of Peyer, showing us, the physicians in attendance, how little we knew of the cause of death"

The author adds "The indications for treatment were the same A recognition of the disease in advance would probably have made no difference"

I have quoted thus largely from this paper because it is really a valuable contribution to medical literature, and I honor the learned author for giving less enlightened members of the profession the benefit of the many sad experiences which have finally opened *his* eyes to the fact that he has been stupidly floundering in his differentiation of diseases, albeit he has yet to learn of his greater deficiency and gross culpability in the treatment of typhoid fever I forego all criticism on the long years and the number of pronounced errors of diagnosis which were required to implant in his mind a just conception of the vast number of children who must die annually of typhoid fever, after having been treated by the average practitioner for acute indigestion and later for meningitis, and finally are buried under a false death certificate If this article, by one of the world's most distinguished professors and medical editors, truly represents the practice of the class to which he belongs, it paints a sad picture of the little victims of typhoid fever who were so unfortunate as to have *come* under their skillful care It presents to our view what costly mistakes these illustrious gentlemen make, and yet the author eliminates but one or two of the diseases with which, in infancy and early childhood, typhoid fever is so often confounded

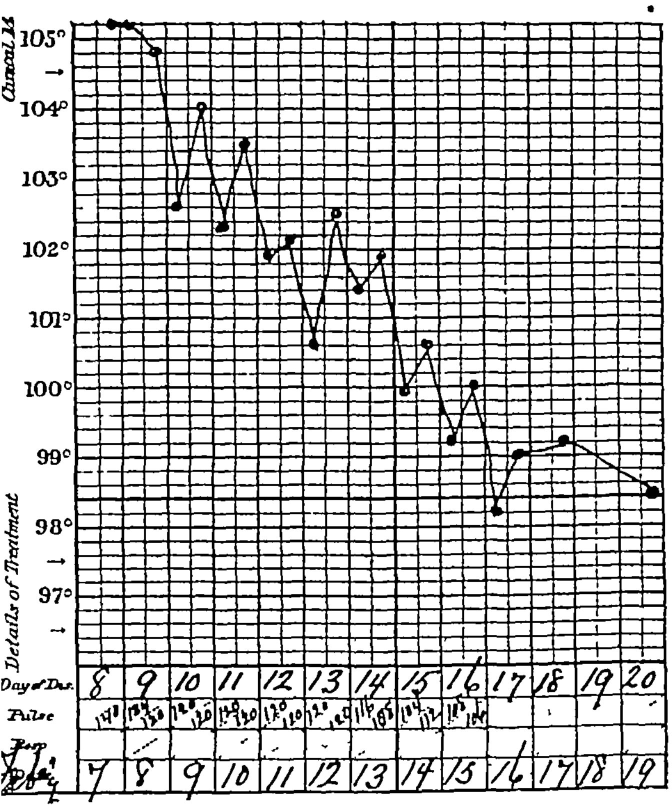
With our present knowledge of the causes which produce typhoid fever, and the susceptibility of young children to their influence, taken in connection with the exceedingly limited number of cases of the disease, which are reported to the various health departments in our cities, where the disease prevails, it must be evident that the eminent writer of the paper quoted is not the only physician who should have had the fact emphasized in his mind "that typhoid fever exists more frequently in early child-life and in a serious form than is generally suspected"

I have, in consultation, seen typhoid fever in young children mistaken for malarial fever,` pneumonia, cholera-infantum, teething and even for worms, in addition to meningitis and acute indigestion

The diagnosis of typhoid fever in children as in adults, should be made by reasoning by exclusion, and if thus the disease can not be eliminated from patient's possible ailments, the case should be ted as typhoid fever, because no other disease is isidious in its character, because no other disease) amenable to treatment in its earlier stages and ntractable after its anatomic lesions have reached rtain stage, because it is so often impossible to :e a positive diagnosis in time to save the patient's , and, finally, because the best treatment we yet w for typhoid fever not only fulfills both of the uirements of Hippocrates—it is curative, it is mless in health or in any pathologic condition at resembling the disease for which it is instituted

learned the importance of making a correct diagis in typhoid fever many years ago, and in 1881 I taught a lesson on the management of the disease hildren which I shall never forget

ittle Gracie Wick, aged three years and ten months, taken sick on December 14 Her temperature on first visit was 105 degrees In fourteen days she l of typhoid fever A few weeks later her younger ter Emily, aged two years and ten months, was atked by the disease, which ran a parallel course l ended in death, again on the fourteenth day th children presented abdominal symptoms In h, the nervous symptoms predominated Both l opisthotonos, and both died the victims of alst criminal stupidity on my part They were my t two fatal cases of typhoid fever and to-day uld I be called as promptly as I was then, they uld have been in no danger of dying

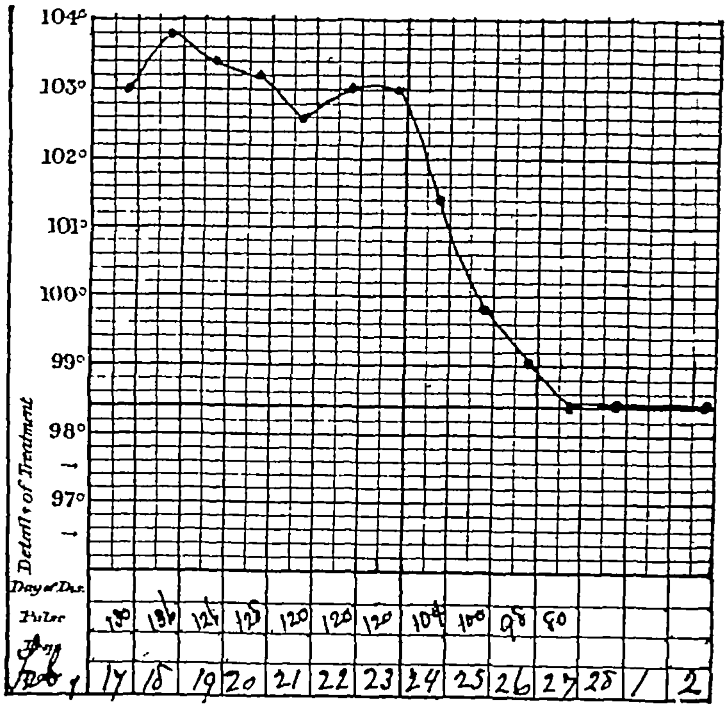


Annie W , age 3 years, date of admission, Feb 7, 1895

Looking back to those gloomy days, I can not real- why I let those children die, for I knew well ugh how to treat typhoid fever in adults even n I made a very inadequate effort to assuage the ngs of conscience, by calling two of the oldest and lest physicians of the city in consultation, after the ne had passed when counsel could have been of any ail

As a marked contrast to the sad picture portrayed the death of these little ones, my last two fatal cases, I wish to present the clinical charts of a few of the cases of typhoid fever I have treated during the intervening years and relate the annals that have been kept of them, and as an addendum give the records of a few cases treated by other physicians, by that which, for want of a better name, I have designated antiseptic medicine, for it is antiseptic medicine, and it is also something more

Case 105—Annie W aged 3 years (Cousin of Case 78, John J) I was called to see this patient on February 7, and given the following history she had been sick eight days, had been treated by an irregular physician, under a diagnosis of malarial fever until the parents, alarmed by the severe symptoms, continued high fever and the enormous tympanitic distension, questioned him closely as to the nature of the disease, finally eliciting from him on admission that it might be typhoid fever, when he was promptly discharged I found the temperature 105 5 degrees, pulse 140, on the evening of my first visit and the same the next morning, the parents having about given up hope, as the child was thought to be dying twice during the night preceding my first visit There was marked impairment of vision, deafness, and well-marked retraction of the head When asked if I entertained any hope for the life of the child, I gave my usual favorable prognosis saying "I think the child will recover and she certainly will if she survive the next forty-eight hours" She had intestinal hemorrhage, which in my experience is rare in young children She also lost all power of speech, her lower limbs were paralyzed, she had just recovered from whooping cough, which returned to plague us during this attack of typhoid fever, in spite of which she made a good recovery Her temperature, as you will see, touched normal on the tenth day of treatment, but went up slightly again on the eleventh day On the thirteenth day the temperature and pulse were normal and the patient was discharged, and ten days later was in more robust health than before her illness



Sarah J , age 13 years, date of admission, Feb 17, 1895

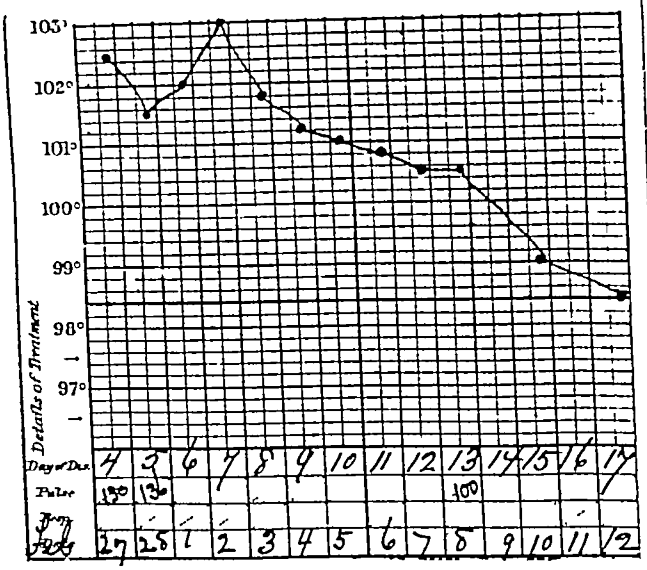
Case 111—Sarah J , aged 13 years (Cousin of Case 105, Annie W) When I first saw this case her temperature was 103 degrees, pulse 130 The next evening it was 103 8 degrees with a pulse of 136 I gave my usual prognosis—ten or twelve days of illness—no danger Her temperature touched normal on the tenth day of treatment This case was an exception to the almost invariable rule commented on by so many observers, that after this so-called antiseptic treatment of typhoid fever, almost as soon as the temperature touches normal, the patient is in better health than before the illness This patient had had some stomach trouble before her illness, and although she recovered quickly from the fever and her appetite was better than usual, for a week or two, she has since been to my office several times for treatment of her old trouble

Case 112 —Florence J , aged 11 years (Sister of Case 111) On February 27, the temperature of this patient was 102 5, pulse 130 Three days later it was 103 degrees from which time it declined to normal on the thirteenth day of treatment, the patient being in good condition and having an excellent appetite

Case 113 —Blanche J , aged 5 years (Sister of Case 112) This patient had temperature of 101 5 on March 2, with a pulse of 128 On the third day of treatment it was 104 degrees, from which point it declined to normal on the eleventh day

I am not infrequently called to see young children, especially in consultation, in the late stages of typhoid fever, when no suspicion of the character of the disease had been aroused, but in which the symptoms are so distinctive that no trouble should have been experienced in making an accurate diagnosis One case of this sort which had been, however, under the care of an irregular practitioner was

Case 98 —Margeret O , aged 2 years I found the child lying in a cradle in the corner of the kitchen, between the wall and the cooking range She was moaning pitifully and sometimes screaming violently , her head was retracted and turning rapidly from side to side A diagnosis of brain fever had been made The temperature was 108 degrees , the bowels very tympanitic and the stools very frequent Taking the necessary steps in the order of their importance, I first dropped a little powder (to be described hereafter) on the child's tongue , I then ordered the cradle to be moved as far as possible from the fire, and had the child sponged and ordered that the powder be given every fifteen minutes Later in the night I visited the child but found little change in its condition The next day I visited her three times and that evening the temperature fell to 105 degrees The following day the symptoms began to improve rapidly, and she made a quick recovery, being well in ten days



Florence J , age 11 years , date of admission, February 27

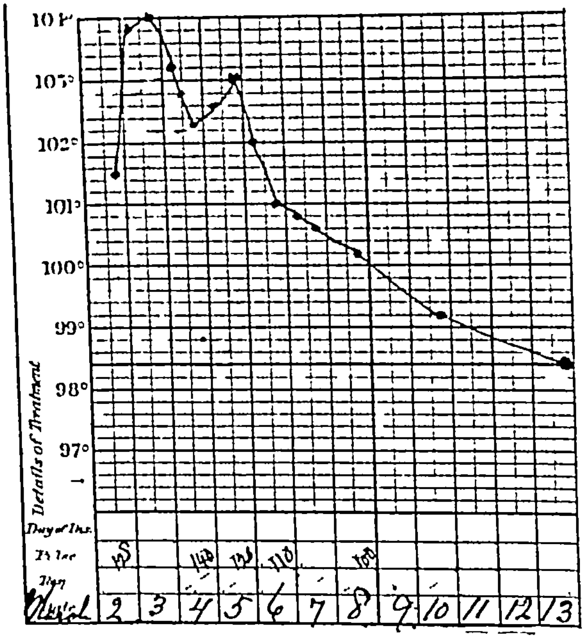
While visiting this child on the second day, I saw a younger child sitting in a suspicious position and when it moved a bloody stool remained Glancing around the floor I saw two or three others, which though small were quite apparent I asked the mother to explain and her answer was brief and to the point "I declare to goodness he's been doing that all day!" Upon examination I found the child with a very rapid pulse and a high temperature The recovery of this child was somewhat tedious, owing to the advanced stage of the disease when I was able to begin treatment

One of the most prominent physicians in Chicago, (a gentleman who was long at the head of Cook County Hospital, and was for many years one of the most highly esteemed professors in the foremost medical college in that city so noted for its clever and accomplished preceptors, and whose name is cut in the corner stone of the college, as one of its founders) has done me the honor to write me several letters of inquiry (he is altogether the best questioner with whom I have ever corresponded) in regard to my method of treating typhoid fever He has favored me with the reports of several cases treated since our correspondence began

Case marked—"Dr McWilliams No —Helen McC , aged six years and three months She was taken sick, as you will observe, while away from home at a summer resort A diagnosis of typhoid fever was made by a local physician, and on the tenth day she was sent home to be under the care of the family physician, Dr McWilliams Her temperature was 106 degrees the first day that the Doctor saw her and on the tenth day she was sitting up, dressed, enjoying ' Judge,' ' Puck,' etc "

Dr Cunningham, of Youngstown, reports the following

Case marked "Dr Cunningham No — Ella G , aged seven months She was under the care of three different physicians, before I saw her in consultation



Blanche J , age 5 years date of admission, March 2, 1895

The first physician (according to the statements of the family) made a diagnosis of whooping cough , the second physician said it was meningitis " The child growing worse, Dr Cunningham was called and made a diagnosis of typhoid fever When the temperature went to 105 degrees he called me in consultation The chart indicates the rapidity with which the child recovered The correctness of the diagnosis was corroborated a few weeks later, when the mother of the child (see chart marked Dr Cunningham No — Mrs G) had an attack of typhoid fever, from which she recovered , and the uncle (see chart marked Dr Cunningham No — James K) died of shock, resulting from an intussusception, occurring after he was almost well from an attack of typhoid fever

Dr C N Udell of Iowa, kindly sent me a report of twelve cases of typhoid fever, and one of cholera-infantum treated by my method, with excellent results from which I extract the following record of cases of typhoid fever in children

Case 8 —S B , male, aged 9 years Was taken with chills to Dr Adams' position It seems to me that with the evidence before the world to-day, drawn from every country in the world, in hospitals, and in private practice, that the medical practitioner who does not use the cold bath treatment in infectious diseases is derelict It appears to me that he must be prepared to use it when certain conditions arise I think, also, that the man who depends absolutely upon it, and applies it in a strictly routine way, without reference to the qualifications of particular cases has not yet learned the resources of his art

I think the Brandt treatment as liable to abuses as any other treatment that has been brought forward, or that ever will be brought forward, but that in dealing with continued high fever infections—continued fever—it is the best method of treatment, is evidenced by the most convincing proof It is perfectly compatible with other elements of treatment I am less of a skeptic than my friend Osler, as regards medication I believe myself that in a disease like typhoid fever, where we have a large anatomic lesion, as a rule, he is perfectly right in saying that we should remember that it is not a question simply of intestinal lesion Some symptoms are so virulent that the system becomes saturated with the poison to such a degree that no treatment will save that subject But in the ordinary cases, in the majority of instances, we have those intestinal lesions as a source of abiding danger, as a source of many symptoms

I believe that upon the diet largely depends the extent to which this intestinal lesion may develop I believe this in consequence of a very long and extensive observation of the disease, continued after the introduction of the Brandt method, and I believe in the use, at the earliest moment suspicion enters the mind of the practitioner that there may be an infection and symptoms similar to typhoid fever, of some remedy, because of its harmlessness, which shall exert its influence upon the intestinal lesion—antiseptic, if you please, or a sedative We should apply some remedy to affect the intestinal walls I do not attempt to dogmatize as to what that remedy shall be We are not going to do any harm if we follow that up by the Brandt treatment Some of the formulas I see published, I should not consent to take into my own stomach if I had typhoid fever, and I do not think they ought to be administered to patients It is well to apply those remedies that are harmless, and I believe that before the Brandt treatment comes in there is an opportunity for direct local treatment of the mucous membrane by rigid diet, and by such medication as may, to some degree, influence the extent to which the disease may progress and limit the subsequent course of the case Once let the case reach the end of the second week, and I do not think anything in the world will affect remedially the intestinal lesion That is the time when the Brandt treatment is our sheet anchor, as it were, but I would not pin my faith to any one specific treatment I think it is dreadful to say the treatment of typhoid fever must be confined to the antiseptic treatment or the Brandt treatment I should not like to say that the successful treatment of typhoid fever depends upon any particular treatment I plead for less dogmatism (Applause)

Dr J A Work, Elkhart, Ind —I am not prepared to accept any one course of treatment, without medicine or with medicine I am very much pleased with what was said by the gentleman just preceding me, in reference to his liberality in treating typhoid fever I believe that we made a mistake in former years in the treatment by not beginning in the very earliest stages to eliminate it, as I believe that the early effort at elimination is the keynote of treatment in typhoid fever, or in the treatment of any zymotic disease I advocated this at Milwaukee two years ago I had experience before I advocated that treatment, and have had experience since It is a fact that we are too often called too late in the disease, and consequently too late to apply effective eliminating remedies Eliminate first, and then neutralize at the same time by antiseptic remedies, reduce the fever by sponge bath or by the Brandt treatment We must realize that we have a human being to treat, and not a disease alone

Dr Geo N Acker, of Washington—I think the true diagnosis in these cases is often made when the case is over In Washington we have a great many cases of typhoid fever in the Children's Hospital Dr Adams and myself have had a number, he lost one and I lost two under treatment by different methods One of my cases was complicated by pneumonia and died, and the other suffered from perforating ulcer The Doctor and myself are connected with the same hospital, and treat about the same class of cases He sees a better class of cases than I do, because he has more patients than I have I give more medicine than Dr Adams, and always have done so If I see a case early enough, I give calomel in small doses and then I give sulphuric or muriatic acid in small doses I always apply the sponge treatment, when the temperature goes over 103, but I rarely ever resort to the Brandt method of treatment, for the reason that I have found that it depresses the heart action, I have had poor success with it, and I have charts to show it I maintain that this great change in temperature is more injurious than beneficial Dr Adams proves by his charts that the temperature has fallen from 105 to 97 degrees I do not believe that is good Dr Adams says he always wants the resident physician present So do I, because I would not trust any nurse with a case where the change in temperature is so great The Brandt method does not shorten the course of the disease, and I have discontinued it

In regard to Dr Woodbridge's paper I do not understand his cases of typhoid fever We do not have such cases in Washington, where every patient gets well I have had in my hospital practice forty cases, without a death, but then I have had deaths after that, and I think that, in the long run, the Doctor will find that he will have the same experience

Dr Atkinson, of Baltimore—The discussion seems to hinge upon two points—the question of diagnosis and the question of treatment A great deal of the confusion which exists in regard to the diagnosis of typhoid fever in children grows out of the expectation so often held that typhoid fever runs a typical course in children, when it does not In most cases of typhoid fever in children they are typical It has been agreed generally here that typhoid fever nearly always runs a typical course—a favorable course My experience is that typhoid fever in children runs a favorable course, but I think our results will be more satisfactory if we disabuse our minds of the idea that certain characteristics invariably must be present As soon as we are able to exclude the tangible affections that we can attribute to other causes, to spinal meningitis, for instance, as soon as we are able to definitely exclude those agents that are capable of recognition, and have a fever that is continuous, day in and day out for ten days or two weeks, that we are unable to control by the ordinary remedies, we are then almost certain that we have a case of typhoid fever to treat In adults, errors of diagnosis of this kind often result disastrously, but in a child it is not so disastrous if we are not too zealous in the activity of our treatment Most cases of typhoid fever recover and the question of treatment, I think, becomes quite a small one Mild cases of typhoid fever are best treated if left alone

In my experience, constipation is the rule in typhoid fever in children, and not diarrhea If we supply nourishment and treat the symptoms by the usual efficacious methods, we find that mild typhoid fever will terminate in the usual time When the temperature rises I have no hesitation in giving my testimony in support of the statements of Dr Adams and others, to the effect that the Brandt treatment is the proper treatment As for the injury inflicted by it, as referred to by Dr Acker, I think that is for the most part imaginary After the bath is administered, the temperature will soon rise to the same degree as prior to the bath, and even when we give forty or fifty or sixty or seventy baths, we find that within a few hours the temperature has again reached the point at which it was prior to each of these baths Nevertheless, the benefits arising from the bath are apparent Previous to the bath we find the tongue hard and dry, after the bath it has a soft coating When the child protrudes the tongue, it comes out readily and goes back with a jerk, showing the activity with which the child responds to the order The use of the bath when administered in an unprejudiced way, will give us the best management of typhoid fever, whether in adults or children I think the administration of medicine to be carried along the intestinal canal is commendable The administration of an agent that will lessen the offensiveness of the stools is desirable, but as for conducing to the recovery of the patient, I think it is not worthy of consideration

Dr Parker, of Massachusetts—Typhoid fever in children is like typhoid fever anywhere else It is a serious disease and demands our most careful consideration In the hospitals of Vienna and Munich I found that very great concern was given to every detail, and more particularly to the details of the hygiene of the bed There is one point here which has not been touched, and that is the stimulation of the patient To use brandy or whisky, or the various preparations which we have administered for that purpose, I think is a mistake I believe strong stimulants act injuriously, are not easily controlled, and are not advisable Therefore, it seems to me that the Munich treatment of red wine is altogether the safest and best stimulant in typhoid fever In regard to the intestinal antiseptic, I think this of great importance I have seen patients show great improvement when attention was given to the administration of intestinal antiseptics

Dr Burns—If one attends the local society then the county medical society, then the convention of the State society, and finally attends the convention of the National society, with a view to acquiring some practical knowledge of the etiology or diagnosis of yellow fever or of cerebro spinal meningitis, he finds himself sadly disappointed I live in a malarious country, and am constantly beset with the difficulties that appeal to all medical men who live in similar countries I am convinced that in cerebro spinal meningitis, its relation to typhoid fever and some other diseases is such that the more one studies either typhoid fever or cerebro spinal meningitis, the more he is confused by the similarity that exists between these diseases As has been said here to-day, in different ages it was thought that the solution of the problem had been made but time proved the fallacy of the hope and now the solution of the problem of diagnosis seems to be as far off as ever The bacteriologists have deluded themselves as others have in the past We find the different masses constantly opposing each other, and thereby impeding progress

Dr Larrabee, of Louisville—We find all sorts of opinions on the subject of typhoid fever Sanitary conditions have much to do with typhoid fever Typhoid fever will prevail anywhere that the child gets the poison, whether it be one year or any number of years old The point of greatest advancement in regard to the diagnosis of typhoid fever has been the elimination from practice of the several diseases that were supposed to conflict That is the elimination of so-called remittent fever This remittent fever has been determined in most instances, if not in all, to be the fever under consideration, and then the withdrawal by the famous author himself of another disease renders it still easier to diagnose typhoid fever So that the disease in childhood is made plainer by the elimination of these other diseases I agree perfectly with the first gentleman, who said that these cases are to be diagnosed by exclusion We are dealing with a fever that is interrupted by quinin, and particularly when there is the symptom which has not been alluded to, but which I think makes a bedside diagnosis as soon as any other, and that is the thing from which it takes its name—the typhoid, the smoky hue

The gentleman spoke of a child protruding and pulling back the tongue quickly But there is more in the condition that originally named the disease Unless that condition be present, I should suspect something else The next question was the headache manifested in the child. It does not continue to be a symptom after the second or third day, and the continuation of the fever is a good symptom of typhoid fever As to the duration of infantile cases, it is usually observed that in the common cases there is a cut-off That is the time we have the most decided symptoms of poison When we reach the limit of 14 or 15 years, I think there is no distinction in the two cases There is a crisis about the fourteenth day

Another point is that we do not shoot any worse by having a mark to shoot at, that is, having a definite object in view The claim is made that in the Brandt method, if it be very carefully guarded, as Dr Adams says, and giving a drink of whisky and a little opiate, the mortality is greatly reduced The Doctor says it also makes a patient comfortable Is that the only object we have in view in typhoid fever? We have a chart here, presented by the Doctor, which, stretched across the room like a Chinese scroll, gives the temperature covering a period of six or seven weeks This patient recovered Now the question is whether that treatment was better than if an attempt had been made to thwart the disease, as spoken of by Dr Woodbridge Whether it is better navigation for the sailor to pay attention to only one course and cast the lead to see where the safety lies, or whether it is better to take a certain observation and ascertain the true position In other words whether the thermometer is the only thing to go by, or whether it would be better to take into consideration other symptoms, whether it is curing a case to suppress the temperature for a given length of time admitting that it again returns to the point it had previously attained Is not the patient under that treatment more liable to be worn out than under the other treatment? I am not prepared to indorse one method any more than another It does seem to me that having a chart and knowing where we are going, is a great deal better than throwing the lead to see where you are at one time, as compared with another The only comment I have to make, is that we are about where the sailor was when he tried the lead over on Nantucket We have not progressed as much as we thought we had

Dr Burr, of Chicago—I make two pleas a plea for the earlier employment of hydropathy in typhoid fever, and a plea for the treatment of the temperature in the disease If there is anything in any plan for the cure or control of any disease, it should have its physiologic basis I have not heard a word said to-day for any of those remedies, except the so called intestinal antiseptic remedies If it is worth while as Dr Pepper has said, to institute your method of treatment six or eight or ten days after the disease has begun, when the temperature has reached 101 or 105 it is certainly worth while to have that treatment in the beginning of the disease, and if it is of any avail whatever in the control of it, it has the additional merit of being resorted to at once Do not wait for the diagnosis There is no treatment so harmless and so easy I want to say that in my own experience and from what I have read of the statistics of the most eminent practitioners, there is no method so appropriate and so safe Until we get the all powerful specific, we must use controlling methods

I want to say one more thing in regard to temperature It seems as though we have been fighting fever on the score of temperature Temperature is a symptom, not a disease It is not high temperature that ails your patient, it is poison, and if you have not the direct specific for the poison or for the control of it, and if you can stimulate the nerve cells and stimulate the alimentary cell itself, whether it is in the muscle or nerve, or in the protoplasm of the blood itself you are going to help your patient that much in weathering a severe disease I will also say that in the carrying out of this hydropathic proceeding, it can be done without harshness by following plans which I hope to place before you to-morrow, in the use of the portable bath tub, and without disturbing the patient, by lifting out of bed to place in the tub You can very soon educate the most delicate person to take the bath by this mode

Dr S Solis Cohen, Philadelphia—The great mistake that is made by those who criticise the Brandt method of treatment, and indeed by some of those who use it, is in reference to the reduction of temperature A reduction of temperature is an incident in the treatment of typhoid fever It is an index of the severity of the process that is going on in the organism It is due, I believe, to poisoning by two things—by metabolic products and by poisons degenerating within the individual attacked by the typho bacillus, and not directly due to it

The treatment by cold bathing instituted early in the course of the disease, carried out systematically and with judgment, by trained nurses, under the supervision of the physician, does two things first, it soothes the excited nervous system of the individual This excitement of the nervous system is one of the most serious features of the disease, and gives rise sometimes, as stated here, to the most puzzling symptoms I remember very well an experience in my own house—fortunately the child recovered—in which the nervous symptoms predominated over everything else in the case, and were obscuring to the diagnosis, and prohibitive of the treatment by the cold bath, and led to the prolongation of the case Cases are rare where the nervous dread of the bath prevents continuous application In some cases I have seen a pronounced nervous excitement calmed and the delirium allayed by the use of the bath, and the instance cited by my friend, Dr Larrabee, of the child quickly drawing back its tongue is an argument in favor of this method of treatment, because that is what it was due to

The Brandt treatment is not an anti thermic, but an antityphic treatment It allays nervous excitement Secondarily it stimulates metabolism, the kidneys and bowels are all set at work and there is an increased throwing off of the poison to which typhoid fever is due I indorse the words of Dr Pepper, when he says that the physician who fails to give the patient the chance that is afforded by the cold bath is guilty of neglect I do not advocate applying the bath indiscriminately I believe there are cases which show in the beginning that they are going to run so mild a course that the bath treatment is unnecessary, but, on the other hand I do not believe that it is doing any harm to steer a safe course and resort to the use of the Brandt treatment as the safest course There are toxins produced in the intestines under the unhealthy condition poisons independent of typhus bacillus I believe that by the early use of some many, Holland, Norway and Belgium, there are societies of medical men who discuss all phases of the alcoholic topic In 1878 these societies joined with philanthropists and reformers in holding international conventions From that time, at intervals of two or more years, meetings have been held in which leading physicians have not only presided, but taken a prominent part in the papers and discussions The last of these congresses has just closed at Basle, Switzerland Some idea of the medical interest of this meeting may be had from the fact that seventy-eight medical men were registered as members and delegates Twenty-one were superintendents of asylums, sixteen were teachers of mental diseases, and twenty-nine were professors in medical colleges, and on health boards

The papers read by these men were on the effects of alcohol on the body Two of them related to some very striking experiments made in the Heidelberg University laboratory, on the physiologic action of small doses of alcohol upon mental processes All the papers read were scientific and did not touch the moral or ethical side of the subject

In France, all the leading medical societies have taken up the alcoholic question with unusual interest and spirit, and many very important and original studies have been made The French government has appointed a commission to investigate the causes of the fatality from the use of spirits The French Medical Temperance Society has been engaged in studying the different effects of alcohol on the body for some time

In England, the Society for the Study of Inebriety, has for years been urging legal measures of restraint, with unusual success The disease of inebriety has been recognized and parliament has passed laws for the organization of asylums and the control of these cases The Medical Temperance Society has investigated alcohol in various ways, and brought out many new facts of great practical value They have been largely instrumental in showing the folly of the beer ration in almshouses and asylums, and calling in question the indorsement of alcohol in medicine and as a beverage

Leading medical men of worldwide reputation, both on the continent and in the British Isles, have taken up this subject fearlessly, and identified themselves as students and investigators, irrespective of public opinion, while in this country there is a strange shrinking from investigation or expression of personal convictions that are antagonistic to current opinions

The two societies in this country who are working along this line have attracted very little attention medically, although the literature published in the *Journal of Inebriety*, by the Association for the Study and Cure of Inebriety, has attracted a great deal of interest in Europe, and many of its articles have appeared in all the leading journals The other society, the Medical Temperance Association, has presented some original work already, and is closely following along the most advanced lines of research concerning alcohol

In Europe, the philanthropists and reformers are turning to the medical men for help and aid In this country physicians stand aloof in an attitude of indifference and criticism This should not be Every medical man should recognize that the so-called temperance problem, which includes a knowledge of the nature and action of alcohol on the system, and the question of the causes and remedies of inebriety is a medical question to be settled by physicians

The noise and roar of agitation rarely brings out facts as to the solution of great problems It is the still small voice of science that must come from physicians, that will point out the means of relief from this evil Physicians in this country, with few exceptions, are far behind medical men abroad in the interest and study of the alcoholic problem This is remarkable, in view of the intense mental activity of American physicians and the freedom from entailments of custom that surround them

The two societies, the Association for the Study and Cure of Inebriety, and the Medical Temperance Association, should be the most popular special medical associations in the country They should be centers for the scientific study of this question, that would not only lead but direct public opinion

Last year a voluntary gathering of teachers, leading business and literary men, with a few physicians, joined to make a scientific study of this subject The confused outline work which was projected, clearly revealed the impossibility of any practical results, except along medical lines, by hardworking physicians The absurdity of laymen and emotional reformers, going round the country teaching the physiologic action of alcohol, and the assent of medical men by silence, is apparent everywhere The popular literature on this subject scattered broadcast, and the contradictory theories repeated in medical text-books as if they were absolute facts, are simply deplorable In no other topic of like interest has there been so little respect for facts, or so little effort to find the truth

This alcoholic problem is vital in every community, and physicians are the true teachers and they should investigate it in the same way that germ diseases are studied We have recently published a number of papers read before the Section on State Medicine on this subject, and we heartily commend it, as one of the great outlying fields of medicine that must be occupied by practical medical men before its solution can be reached

STATE CARE FOR THE INSANE

The progress of "State care" in New York will, on October 1, pass another mile stone The insane of Kings County will, on that date, cease to be under the charge of the old board of county commissioners, and will be transferred to the State Commission in Lunacy Salaries of the medical corps have been raised, and the employment of a female physician has been provided for Under the law authorizing this transfer it has been stipulated that the present staff of officers should continue to hold their positions during "good behavior," that is to say, they are removable only for cause

When this transfer shall have been made, there will then remain only the insane of New York still outside of State care That county would probably have already fallen into line with the rest of the counties of the State had it been possible to settle certain questions relative to tax appropriations There is a strong probability that an act will be passed by the next Legislature that will make it easy for New York County to adopt the State care, under which the hospitals become such in fact as well as in name The insane under this change of systems, are cared for honestly and there is little room for petty thievery in contracts The eyes of the State officers as well as of the local managers, are directed alike to the interests of economy and to the welfare of the patients, whereas, under the older system the business of awarding contracts, that would appear straight while being crooked, was that in which the officers excelled

NEW MASSACHUSETTS LAWS RELATIVE TO COMMITMENT OF THE INSANE

Chapter 429 of the Acts of Massachusetts of 1895 provides that no person shall be committed to a lunatic hospital, asylum or other receptacle for the insane, unless, in addition to the oral testimony given, there has been filed with the judge hearing the complaint or other proceedings for the commitment of the person alleged to be insane, the certificate of two physicians certifying to such person's insanity, made in accordance with the provisions of Section 1 of Chapter 286 of the Acts of 1895 This latter provides that in any hearing in any proceeding for the commitment for proper treatment of any person alleged to be insane, to a lunatic hospital, asylum or other place provided by law, no one shall be qualified as a physician to make to a judge at such hearing a certificate of the insanity of a person unless he shall make oath that he is a graduate of a legally chartered school or college, that he has been in the actual practice of his profession in this Commonwealth as a physician for at least three years since his said graduation, and for the three years next preceding his making said oath, nor unless he is duly registered in compliance with the law of 1894, and continues to be so registered, nor unless his standing, character and professional knowledge of insanity is satisfactory to such judge

Each certificate bearing date more than ten days prior to any commitment of any person alleged to be insane shall be null and void, and no certificate shall be valid or received in evidence if signed by any physician holding any office or appointment in or connected with the hospital, asylum or other place for the insane to which the person in question may be committed by the order of the judge Every physician certifying as herein provided must himself have examined the person alleged to be insane, within five days of his signing the certificate, and every such physician shall state in said certificate that in his opinion said person is insane and a proper subject for treatment in an insane hospital or asylum, and shall specify the facts on which his opinion is founded

A copy of the certificate, attested by the judge, shall be delivered by the officer or other person making the commitment, to the superintendent of the hospital or other place to which the person shall be committed, and shall be filed and kept with the order of commitment And a copy of each physician's certificate of insanity required under the provisions of this act shall be mailed to the State Board of Lunacy and Charity by the superintendent of each lunatic hospital and asylum, within forty-eight hours after the commitment of each person adjudged insane

HYPNOTISM AS A MORAL FORCE

Word comes to us from Utah that an attempt is there being seriously made, presumably under the local governmental auspices, to reform criminals by hypnotism Evil is to be eradicated and moral tendencies instilled into the criminal by passes and suggestions, whether the criminal has a will to be moral or not, he is to be made so On the other hand, there comes from Germany the proposition to cure sexual perverts by the same means, but the foreigner is either less hopeful or more immoral, in that he proposes to substitute a less repulsive style of immorality for the existing tendencies of the subjects He is perhaps a little less extravagant, if he is also less respectable in his ideas than the Utah practitioner, but it is hard to see why they are not almost equally irrational

Hypnotism ought to be understood by the people and by medical men in particular, if the amount of literature on the subject could enlighten them, but there still seems to be a widely spread superstition which a few in the profession seem to share, that there is an occult force in the hypnotizer which his victim can not resist And hypnotism as a moral force, usurping the place of training and religion is comparatively a new extension of the superstition

THE SOCIETY OF AMERICAN OBSTETRICIANS AND GYNECOLOGISTS

This active and energetic society held its annual session in Chicago this week, under the Presidency of Dr J H Carstens, of Detroit The proceedings which were varied and interesting, will be published in our next issue

The entertainments included an excursion on the Lake, given by Professor J B Murphy, and the annual dinner of the Society at the Union League Club The speeches at the dinner were by Drs Potter, McMurtry, McDonald, Ross of Toronto, Taylor, Hamilton, Lydston, Martin and Dudley Mr Evans of New York, gave some character songs which were well received

A telegram was sent the venerable Robert Battey, of Rome, Ga, expressive of the sympathy of the Society, the Chicago Gynecological Society, and the invited physicians there present, with him in his illness and their best wishes for his speedy recovery

Dr Joseph Price, of Philadelphia, was elected President, A H Cordier, of Kansas City, Vice-President, and W W Potter, of Buffalo, Secretary

Richmond, Va, was chosen as the next place of meeting on Tuesday, Sept 2, 1896

EXCELLENT APPOINTMENTS

The Commissioners of Cook County, Ill, have at last yielded to the voice of the medical profession and the public, and appointed a competent board to supervise matters at the County Hospital for the Insane

Let us trust that the Commissioners will have the good sense to follow this up, by the appointment of a medical man as resident superintendent Drs Richard Dewey, Sanger Brown and Archibald Church are named as the board, to have supervisory control over the medical affairs of the hospital It has been stated that the absence of Dr Dewey will probably prevent his acceptance, but there is no dearth of good timber in Chicago There are to be two resident assistants selected under civil service rules The order of the Commissioners is elsewhere printed

ARMY MEDICAL BOARD

A board for the examination of candidates for admission to the Medical Corps of the Army has been called by Surgeon General Sternberg, the text of which will be found in the Public Service column

CORRESPONDENCE

The Doctor in Politics

Sept 24, 1895

To the Editor —The opinion held by some physicians that the medical profession should take a more prominent part in political affairs has received a new impetus from the recent meeting of the County Central Committee of Cook County, Illinois The story told of the sanguinary encounters between members of that committee has led to the suggestion that hereafter a surgeon should be appointed to attend all *meetings of the "business" men who control* the destinies of one of the great parties in the second city of our great Republic

The story of how one Mr Goodman, of Evanston, had his nose broken by the Honorable "Buck" McCarthy, an alderman, and the heroic deeds of this doughty champion in producing bruises on the face of the Honorable "Jo" Lammers, also an alderman, and enucleating the eye of that worthy by the effective and simple process technically known as "gouging," has also stimulated the surgical instrument trade to a considerable extent It is understood that in the enucleation of the eye of the Honorable "Jo" Lammers, the Honorable Mr McCarthy did not use scissors or scalpel, *but with due regard for the prevention of hemorrhage, tore* through the conjunctival mucous membrane with his right index finger It is also stated in the press dispatches that no regard was paid to the modern teachings of antiseptic surgery, and that although preparations for the operation on the aldermanic eye had lasted for some time with the doors of the operating room closed, even the trained nurses engaged by the committee were denied admission Whatever credit, therefore, may attach to the operation *per se*, it is discreditable to the intelligence of a great city that such important surgical operations should be intrusted to an illiterate alderman from the stock yards district, such as we understand the Honorable "Buck" McCarthy to be

There is no question but such aldermen accurately represent the refinement of their constituents, for this is a free city, and everybody may vote at the primaries and at the polls A gum-chewer, with a fog horn voice, we send to Congress, because he represents fully our ideas of polite elegance and oratory A bruiser who keeps a saloon we elect to our city council because we believe in physical culture, and in his ability to legislate for the general good of the public A Council composed of such worthies we return every year, because we think "business" men should always be preferred to legislate on the public health, over any physician It is clear, Mr Editor, that such is the opinion of our physicians, and as well of the clergy, or else it would not happen It is said that the downfall of the Roman Republic began with the indifference of the leading citizens in regard to its political affairs We do not believe this, for our profession is as patriotic as any, and we, by our silence, give full consent to any thug who wishes election to receive it We must, in fact, accept the fact as it stands, that as a profession we prefer a scoundrel in our legislative halls, otherwise we would try to prevent it Let us not, Mr Editor, try to delude ourselves, as you seem to be constantly trying to do, into the belief that we, as a profession, do not like to be represented by the persons we send to our City Halls, our Legislatures, and our Congress Senex

Post-Nasal Hypertrophy

Minneapolis, Minn, Sept 20, 1895

To the Editor —I wish to acknowledge through the Journal, my appreciation of the article entitled, "Post-Nasal Hypertrophy in Its Relation to Hay Fever and Other Diseases," by W H Weaver, M D, of Chicago, Feb 9, 1895

In my estimation this article contains the most valuable contribution to the treatment of all those forms of nasal disease characterized or accompanied by intumescence, which has been given to the profession in the past ten years Dr Weaver recommends that the posterior (nearly always enlarged) extremities of the lower turbinates be snared, or with a bent probe cauterized with chromic acid, in order to destroy the sensitive terminals of the nerve supply to "Mackenzie's sensitive area," including the posterior ends of the lower turbinates and the surface of the septum opposite

Of course we have all snared the posterior growths when we could engage them in our loops, and failing, have deeply cauterized with galvano-cautery, and still our patients have complained that they were not cured

Dr Weaver's recommendation seemed so rational that I at once adopted it, and have been so well pleased with results that I now seldom use, or have need to use, my cautery Since the date of publication of Dr Weaver's paper, Feb 9, 1895, I have done the operation (applying chromic acid to the posterior extremity of a lower turbinate) sixty-two times in thirty-eight private patients, whose records are readily accessible and who for the most part had had no previous galvano cautery treatment Beside these, I have treated in like manner perhaps an equal number, who after the regulation snarings and deep cauterizations have still returned for further relief The results have been incomparably better than by the galvano-cautery The pain and shock are much less, there is almost never any inflammatory reaction sufficient to cause occlusion of the naris, and the relief is immediate and as permanent as more destructive methods will give Since using this method I find much less necessity for snaring posterior growths, and where I have snared large growths I have found the benefit more than doubled by a subsequent application of the chromic acid I find, further, that the efficient application of this method *obviates* the old time necessity of 'tacking down" the anterior *and* middle regions of the lower turbinates, certainly in a large majority of cases

And now a final word as to the application of the method Having the lower turbinate well cocainized, the acid is fused upon one side only of a properly bent applicator, passed back through the naris, carefully applied to the whole posterior extremity of the lower turbinate, and withdrawn without touching innocent parts The nares are then flushed thoroughly and as promptly as possible with *a pint or more of soda water* Then a drying powder containing antipyrin, and an oil spray The patient seldom sneezes, and after an hour the slight discomfort in the nose is usually gone To use merely an alkalin *spray* after such an application of chromic acid is to be guilty of malpractice

EDWARD J BROWN, M D

Coca Cola Statistics

63½ WHITEHALL ST, ATLANTA, GA, Sept 21, 1895

To the Editor —Desiring to find to what extent coca cola habitues are developed by the use of coca cola as a drink, I address this card to the medical profession, hoping that it will receive a ready response by any physician who has treated such cases In replying, please state age of patient, sex and amount drank daily

Hoping some good may result from such a collection of cases, I am, Yours respectfully,

R R KIME, M D

BOOK NOTICES

The Index Catalogue of the Library of the Surgeon General's Office. Authors and Subjects Volume xvi W ZITHUS Washington, D C Government Printing Office 1895

This volume completes the alphabet, and is therefore the final volume of the first series of this incomparable work We learn from a letter transmitted by Deputy Surgeon-General John S Billings that "the manuscript of a second series, including all the titles of books and articles received too late for insertion in the first series, has been prepared, and will probably make some five printed volumes of the same size and style as those constituting the first series An appropriation for printing volume i, of the second series, has been granted by Congress, and the work will therefore proceed without interruption, the manuscript for the first volume being now nearly ready for the press" The library of the Surgeon-General's office now contains 116,847 books, and 191,598 pamphlets This volume contains a list of contributors to the library, government societies, corporations and individuals who have given numerous contributions There is also found *corrigenda* of the entire sixteen volumes

In mentioning the completion of this book, we desire to congratulate Dr Billings, Dr Fletcher and their coadjutors, and to say that so far as we are able, we feel sure we voice the expression of the entire ASSOCIATION when we say that no aid to American medical literature has been so important as this, since the foundation of the country The teacher and the writer, and scarcely less the general practitioner, must turn to this great catalogue when in search of the literary treasures of the past, bearing on whatever subject he is especially interested in, and no one more than the medical editor knows how extremely valuable this Index is for reference We are obliged to consult this work nearly every issue of the JOURNAL, to verify spellings and dates It is also with pleasure that we note the continuation of the Index and the practical completion of its first volume

Practical Dietetics, WITH SPECIAL REFERENCE TO DIET IN DISEASE By W GILMAN THOMPSON, M D 8vo, with pp 802 New York *D Appleton & Co 1895*

To the members of the medical profession connected with hospitals, and especially those in the Government service, it has long been a source of astonishment that the profession in general paid so little attention to dietetics in the treatment of disease, as in the hospital service the diet is prescribed with the same regularity as medicines or drugs Nor has medical literature, generally, given the subject of diet as much attention as its importance warrants, and this book will therefore go to the profession as one conveying information on a nearly new subject We can *not too highly* commend the study of dietetics For that purpose the volume under consideration is perhaps one of the best of modern works on this subject The contents of the volume are included in nine parts and an appendix Part i, Foods and Food Preparations, which refers to the composition, classification, force-producing value, etc It includes both vegetable and animal food and the detection of adulterations in classes of food mentioned Part ii is given to the study of Stimulants, Beverages, and Condiments Part iii, Cooking, Food Preparation and Preservation, and Quantity of Food required Part iv, Foods Required for Special Conditions Part v, Food Digestion and conditions which specially affect digestion Part vi, General Relation of Food to Special Diseases which are caused by Dietaries Part vii, Administration of the Food for the Sick Part viii, Diet in Disease and Diet in Infectious Diseases, diet in diseases of the respiratory system, diet in diseases of the circulatory system and blood, diet in diseases of the *alimentary* canal and diseases of the intestine, disease of the liver, of the nervous system, skin diseases, and a discussion *of the* diseases especially influenced by diet Diet in miscellaneous diseases, diet for surgical patients Part ix, Rations, Dietaries, giving the Army and Navy rations, as well as the U S Prison ration, various hospital dietaries, etc

In the appendix will be found recipes for invalid food and beverages suitable for fevers, convalescence from acute illness, beverages of all kinds beef preparations, broths and soups, meat, milk and eggs, farinaceous and gelatin preparations With this book one may manage very many affections without the use of drugs of any sort

The chapter on Milk is one of the most valuable in the book

In regard to the treatment of obesity, which the author describes in detail, he speaks of the different systems, but says "Nearly all of these systems agree in two particulars 1, to reduce the total quantity of food ingested as much as possible, without impairing the strength of the patient, 2, to diminish the amount of fluid drunk, by prescribing what is called a dry diet The treatment moreover, is usually combined with systematic exercise or bathing, and it is highly important to keep the bowels active Lean meat should form the basis of all diet A non restricted flesh diet may give rise to dyspepsia, gastric and intestinal catarrh Soups of all kinds should be *forbidden*, as well as alcoholic that there is not sufficient evidence yet to prove that it is contagious Goitre and cretinism are frequent in the valley of Villamayo Uta, which is a species of lupus, is, according to Ugaz, endemic in certain valleys on both slopes of the Andes The lesions are usually found on the uncovered parts of the body In February, 1891, in Lima, and especially in Jesus Maria convent, there occurred many cases of a fever with infectious characteristics, to which many distinguished persons succumbed and which threatened to spread indiscriminately The National Academy of Medicine attributed this outbreak to the bad condition of the sewers, intra-urban cemeteries, and burial in churches [1]

Health Reports —The following health reports have been received at the office of the Supervising Surgeon General, Marine Hospital Service

SMALLPOX—UNITED STATES

Arkansas Clay County, August 7 to September 18, 43 cases, 7 deaths

Louisiana New Orleans, September 7 to 14, 2 cases, 1 death

Michigan Battle Creek, September 7 to 14, 2 cases 1 death, Detroit, Marshall, Bedford Twp, smallpox reported present, September 7 to 14

Texas September 17 to 22, 1 death

CHOLERA—FOREIGN

India Bombay, August 13 to 20, 2 deaths, Calcutta, August 3 to 10, 18 deaths, Madras, August 10 to 16, 1 death

Turkey Aleppo, August 14 to 21, 63 cases, 32 deaths

Japan Nagasaki, August 12 to 19, 71 cases, 55 deaths

YELLOW FEVER—FOREIGN

Cuba Santiago, September 1 to 14, 27 deaths

Mexico Vera Cruz, September 5 to 12, 2 deaths

SMALLPOX—FOREIGN

Calcutta August 3 to 17, 6 deaths

Dublin September 1 to 7, 4 cases

London September 1 to 7, 25 cases, 5 deaths

Manchester September 1 to 7, 5 cases, 1 death

Montevideo September 10 to 17, 1 case

Odessa August 24 to 31, 1 death

Trieste September 24 to 31, 2 cases

Tuxpan September 1 to 7, 3 deaths

Southampton September 24 to 31, 1 case

Zurich August 17 to 24, 1 case

NECROLOGY

James McCreary Sudduth, M D, formerly of Bloomington, Ill, at Colton, Cal, September 20, aged 68 He was graduated from Rush College in 1854 and built up an extensive practice in Central Illinois He afterward gave up the practice of medicine and became a banker and stock raiser He leaves a widow, one son, Dr William Xavier Sudduth, of Chicago, and two daughters, Miss Alice Sudduth, National Superintendent of the W C T U, and Miss Margaret Sudduth, Managing Editor of the *Union Signal*

H V Gregg, M D, of Connersville, Ind, September 12 He had practiced medicine in Connersville since 1858, served during the Civil War as Surgeon of the 124th Indiana Volunteers, and was mustered out of service with the rank of Major He was an active member of the American Medical Association

Wm S Layman, M D, one of the best known physicians of Schoharie County, N, Y, died September 5, in Schoharie He was 64 years old He was a graduate of the Albany Medical College in the class of 1854 He was a member of the State Medical Society, and was prominent in various social organizations

Ogden M Randel, M D, of Oneida, N Y, September 15, aged 68 He was graduated from the University of Michigan in 1854 ——A W Thompson, M D, of Circleville, Ohio, September 16, aged 81 ——C C Brady, M D, of Lincolnville, Ind, September 10, aged 40 years ——W LeRoy Wilcox, M D, of Irving Park, Ill, September 22, aged 35 He was thrown from his carriage and accidentally killed ——Nathaniel Allison, M D, of Mexico, Mo, September 15 He was born in Orange County, N Y, in 1818, and moved to Mexico in 1845, where he has since lived ——Howard Hopkins Winters, M D, of Lancaster, Pa, September 15 He was graduated from the University of Pennsylvania and has practiced in Lancaster nearly twenty years ——W O Stauffer, M D, of Indianapolis, September 11 ——J W Crowders, M of Dallas, Texas, September 11 ——R A Herwick, M D, Smithton, Pa, September 17 ——Newell P Warner, M D, o Syracuse, N Y, September 16 ——J B Galer M D, Septe ber 11, aged 74 He was born in Pennsylvania and graduated from Rush Medical College

MISCELLANY

Bequests to Massachusetts Charitable Institutions —Under th will of the late Mrs Elizabeth T Eldredge, of Newton Mass, the Massachusetts General Hospital receives a donation of $10,000 for the establishment of free beds She als bequeaths to the Home for Aged Men $25,000, to the Ho for South Boston Orphans, South Boston, $2,000, to the Assc ciation for the Relief of Aged Indigent Females, $25,000, tc the Society for the Prevention of Cruelty to Animals, $1,000

Association of Women Dentists —There is a dental association composed of female practitioners from all parts of the United States, and numbering forty-two active members The chief condition of membership in it, is the possession of a diploma from some dental college in good standing There are not less than one hundred and fifty women dentists in the country, and every year brings a larger number of students to the classes A three-year course of study is required in the best of the schools to which women have access.

Thyroid Treatment of Uterine Fibroids —Jouin has given thyroid extract in tablets of 0 15 ctgm, 4 to 8 tablets daily, in cases of uterine fibroids In three cases he noticed a diminution of the hemorrhages and in two a partial disappearance of the tumor In one case it was unsuccessful, two others are too recent to arrive at any conclusion He believes that experimental researches into this phase of its sphere of activity should be undertaken Physiology as yet, he says, furnishes only very hypothetical views as to the action of the thyroid juice in the therapeutics of fibroid tumors [1]

Dr Winslow on Female 'Cycling —Dr Forbes Winslow states that he has been misreported regarding his opinions of the bad effect of the bicycle on women In a recent letter to the New York *Herald* he remarks that an interviewer approached him with some general questions on the subject, and that "in reply to his question, I stated that I personally did not approve of lady bicyclists (an opinion universally indorsed by physicians in my part of the world), but really, I had no practical experience in the matter I was then asked as to the moral effect, but on this matter I expressed no statement of any description, and I desire that the words which have been quoted as mine should be emphatically denied, as being purely invention and not in any way based on what I said on the subject I believe that many young girls run the danger of serious bodily illness from excessive straining, but it is a subject which I have never studied sufficiently well to be quoted as an authority I agree with your remarks on the subject, and trust to your sense of fairness to emphatically deny what has been given broadcast as my opinion in the matter"

Aural Complications in Typhoid Fever from Secondary Infection. —It is not rare to see aural complications during the course of typhoid fever, these are generally at least in the beginning, a simple catarrhal otitis This otitis may continue catarrhal or it may become purulent Suppuration of the middle ear is of considerable importance and generally ends in spontaneous perforation of the tympanic membrane, when there will be a purulent discharge from the meatus In many cases the suppuration will invade the mastoid cells, then we will have chronic otitis and caries of the petrous portion To prevent these serious results the ears of typhoid patients should be watched carefully The treatment of otitis may be divided into two parts, first, we try to arrest its development and prevent suppuration, second, if suppuration follows or if pus is already formed it must be evacuated and its reformation prevented For prevention, rigorous antisepsis of the external ear and pharynx must be established by irrigating the canal several times daily with a boric acid solution, then drying the canal carefully, after which a plug of borated cotton is inserted [1]

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[1] Journal d' Hygiene, Aug 1, 1895

[1] Rev Int de Med et Clin Prac, 1895, No 15

For Impostors in Massachusetts —Section 10 of Chapter 158 of the Massachusetts Acts of 1894 has been amended so that it now reads as follows "Whoever, not being registered as aforesaid, shall advertise or hold himself out to the public as a physician or surgeon in this Commonwealth, *or appends* to his name the letters, 'M D', or *uses* the title of doctor meaning thereby a doctor of medicine, shall be punished by a fine of not less than one hundred nor more than five hundred dollars for each offense, or by imprisonment in jail for three months, or both" Here the words "or appends," after the word "Commonwealth" have been substituted for the words "by appending," and the word "uses," following the letters "M D" has been substituted for the word "using," thereby materially broadening the scope of the statute

Density of Population in New York City —In the London *Lancet* for August 10, the American correspondent presents the following analysis of the figures obtained by the recent census of New York city

"The recent census shows that in the last twenty-five years the population of the city has increased from 900,000 to 1,900 000 One million people, in large part formed of the poor and ignorant emigrants from Europe, have been added to our population A certain acre near Essex and Stanton Streets, having 622 people on it, is the most crowded of any city in the world, but this maximum is nearly maintained for a whole square mile, including parts of wards, numbered 7, 10, 11, 13, 14, and 17 In this square mile there are gathered together 370,000 people, mostly aliens, while the enumeration of children under 5 years of age is 53,000 From the census returns giving the number of children of school age—that is, from 5 to 14 years inclusive—the estimated number in this square mile is 63,000 Fifty thousand should be in the primary schools, but there are in this whole square mile but 27,000 sittings in the primary schools, so that there are some 20 000 children more than can be received in the schools of this district"

Loss of the Eyes through Mourning —According to the veteran missionary Dr Martin, of India, it is not an uncommon thing to see Hindoo women one or both of whose eyes have been lost through the manifestations of grief On inquiring the cause of all this, the usual reply is that she has lost a child, and has cried till she may be said to have cried her eyes out "That is," says he, ' probably what has actually occurred in many cases It is always a son, sometimes a husband I never heard of a woman crying seriously for the loss of a daughter In one case, both eyes had been lost by way of variety for a buffalo Buffaloes are prized above cows for their milk as they give more milk, and of a richer quality, though with something of a tallowy taste The female acquaintance of this woman waited upon her and advised her to weep, and offered to join with her in her efforts" They came, both young and old, some with one eye, and some with the remains of two, and some with strabismus and scarrings, and baring their heads, proceeded to form a circle with their hostess in the center Then all, with one accord continued to shriek piteously for the space of two hours while they beat their thighs and temples alternately with both hands This is the customary mode of public mourning, though usually practiced only on the death of a husband or son

Cook County Hospital for the Insane.—The Commissioners of Cook County, Illinois have adopted the following order

WHEREAS, It is the purpose of the County Commissioners of Cook County to secure in the management of the County Hospital for the Insane efficient service in all departments thereof, and to provide that in the treatment of patients therein, the highest and most approved means shall be used, and

WHEREAS, It is deemed expedient, in order to obtain the highest degree of service in the management of said institution that the counsel and advice be had of a board of physicians eminent in their profession, who are not county employes, and who have no pecuniary interest in the management of said institution Therefore, be it

Resolved, 1 That an advisory medical board, composed of three physicians eminent in the medical profession, be, and the same is hereby established, said board to be known and designated as the "Supervising Medical Staff of the Cook County Hospital for the Insane"

2 That the said supervising medical staff is hereby authorized to determine upon and formulate rules and regulations for the treatment and care of the patients in said hospital, and for the control and management of the resident physicians nurses and attendants in charge of patients in said hospital, prescribing in said rules the duties and obligations of said physicians, nurses and attendants

3 That the said rules, prepared as above, shall be submitted to the Board of County Commissioners, and upon the approval thereof by the said County Commissioners shall be and become of force and effect, and be binding upon all employes, physicians nurses, and attendants at said hospital and shall be in force by the superintendent of said hospital or asylum

4 That the supervising medical staff is hereby authorized and empowered to inspect said hospital from time to time, and to examine into the condition, care, and treatment of the patients therein and see that the rules and regulations thereof are enforced

For the purpose of said inspection above provided the said supervising medical staff and the members thereof are hereby granted full freedom of said institution, and of each and every department thereof, at any time during the day or night And the supervising medical staff is authorized to report to the President of the Board of County Commissioners at any time, when, in the judgment of its members, the good of the service requires it, any special or general matter relating to the condition, management, judgment, or rules of said hospital

5 That until further ordered by the Board of County Commissioners there shall be employed at said hospital or asylum two physicians and two assistant physicians, who, subject to the supervision and direction of said medical staff shall have charge of the medical treatment and care of the patients, as well as the direction of the nurses and attendants It shall be the duty of said attending physicians to report in writing to the general superintendent any neglect, abuse, improper conduct, or infraction of the rules of any part of any nurse, attendant, or other employe Said report shall be carefully pasted into a book and preserved for inspection And it shall be the duty of the general superintendent to give notice in writing of every such complaint to the President of the Board of County Commissioners and to the chairman of the committee on Dunning institutions on the same day he receives such complaint

6 That the County Civil Service Commission be and the same is hereby requested to have applicants for positions of physicians at said hospital for insane examined as to their qualifications by the members of said supervising medical staff so far as practicable

7 That Dr Richard Dewey, Dr Sanger Brown and Dr Archibald Church be and they are hereby selected as members of the said Supervising Medical Staff of the Cook County Hospital for the Insane, to act in said capacity from the first Monday in October, 1895, until the first Monday in October, 1896

Louisville Notes

KENTUCKY SCHOOL OF MEDICINE —At the meeting of the faculty of this school on the 21st inst, Dr W H Wathen, who has been dean of the faculty for the past fifteen years, resigned, and Dr Sam E Woody was elected to succeed him Dr Wathen will continue as professor of abdominal surgery and gynecology, but stated in tendering his resignation as dean, that his private business interfered with the proper conduct of the school Dr Woody, the newly elected dean, is professor of chemistry and diseases of children, and will continue as such, assuming his new duties October 1

Hospital Notes

THE new Silver Cross Hospital at Joliet, Ill, will be dedicated October 6 This hospital cost $50,000, and has been greatly needed owing to the large number of sick and wounded sent from the drainage canal —The court at Norristown, Pa, has filed an opinion in the estate of John Boyer, deceased, allowing the Protestant Episcopal Hospital of Philadelphia $6,017 The deceased was a banker, and left a will giving Mrs Mary Simpson the interest of $5,000 for life, and at her death the principal to be paid to the hospital Mrs Simpson died in 1892, and the auditor awarded the interest and accretions on the principal sum, to other devisees, but the hospital filed exceptions which the court sustained ——Work will be begun upon the new hospital at Moline, Ill , in the spring The probable cost of the building will be $15,000 ——The new hospital at Visalia, Cal , has been completed, at a cost of $6,000 ——The ninth annual convention of the Superintendents of the State Hospitals of New York was held at Rochester on September 10, holding its sessions at the Rochester State Hospital The State Lunacy Commission was represented by two delegates

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[1] Rev Int de Med et Chir Prat 1895 No 16

Society Notes.

The Hill County (Texas) Medical Society held a regular meeting September 12 at Hillsboro ——The Jackson County Medical Society held a meeting at Kansas City, Mo , September 12 Four papers were read ——A regular meeting of the Fremont County Medical Society was held at Sidney, Iowa, September 11 ——The Butler County, Ohio, Medical Society at the last meeting, held at Hamilton, decided to hold semimonthly meetings instead of monthly as heretofore ——The Tri-State Medical Society will hold a meeting at Des Moines, Iowa, October 1, 2 and 3 The last meeting of this Society was held in Jacksonville, Ill ——The Toledo, Ohio, Medical Association held a regular meeting September 20 ——The Franklin County, Pa , Medical Society held a regular meeting in *Chambersburg, Pa , September 17* ——The eighty-second annual meeting of the Vermont State Medical Society will be held in Burlington, October 10 and 11 There are about twenty papers on the program, and the wide range of subjects gives promise of a beneficial meeting The officers are President, J H Linsley , Vice-President, F F Chaffee , Secretary, D C Hawley , Treasurer, D G Kemp ——The seventh annual meeting of the Tri-State Medical Society will be held in Chattanooga, Tenn , October 8, 9 and 10 The preliminary program shows that this meeting will be up to the standard maintained for several years past

Washington Notes.

Health of the District —The death rate took an upward turn during the past week From 95 deaths reported to the Health Department in the week previous, the number went up to 122 The annual death rate followed in the same ratio from 17 93 to 23 02, which is the normal figure The increase in mortality may be attributed to no particular cause, but seems to be all along the line Dangerous contagious diseases still maintain a minimum degree and do not attract the attention of the medical faculty, there having been but one death reported from diphtheria The increase in the number of deaths from typhoid fever has determined the Health Department to institute a prompt and scientific inspection as to the cause, with a view to removing it if possible In other respects the health of the city is at the normal, both as to mortality among children under 5 years of age and those persons over 60 years of age

To Investigate Typhoid Fever —The Commissioners have appointed Dr George M Kober, special medical inspector, to investigate typhoid fever, at the compensation of $5 per day, payable from the emergency fund A more competent man could not be found to perform the duty His previous scientific work on the subject is well known to the profession and he will undoubtedly make a very valuable report

Report of the Columbia Hospital for Women and Lying-in Asylum —The Commissioners have received the report of Columbia Hospital from Nathaniel Wilson, President of the Board of Directors For the coming year an appropriation of $25,000 for the maintenance of the hospital and training school, and $10,000 for the estimated cost of essential repairs to the main building are required Patients discharged or left during the year, 566 , died, 15 , remaining under treatment July 1, 1895, 37 Of 573 patients treated, 473 were residents of the District of Columbia , 311 were colored, 26 white, and 1 an Arab Of the children in the institution, 200 were colored, 101 white, and 1 Arabian , 1,690 new patients have been admitted to the dispensary, and 1,852 were treated The total receipts of this hospital, including Congressional appropriation, were $32,348 98 Of this, $32,317,86 was expended for maintenance and improvements, leaving a balance of $31 12

THE PUBLIC SERVICES.

NOTICE.—An Army Medical Board

Will be in session at Washington City, D C , during October, 1895, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies

Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before October for the necessary invitation, giving the date and place of birth, the pl and State of permanent residence, the fact of American citizenship, name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof The application should be accompanied by certificates based on person acquaintance, from at least two reputable persons, as to his citizenship character, and habits The candidate must be between 22 and 29 years of age, and a graduate from a Regular Medical College, as evidence of which, his Diploma must be submitted to the Board

Further information regarding the examinations may be obtained by addressing the Surgeon General, U S Army, Washington, D C

Geo M Sternberg, *Surgeon General, U S Army*

Army Changes Official list of changes in the stations and dutie officers serving in the Medical Department, U S Army, from Sept *ber 15, 1895, to September 21, 1895*

First Lieut Paul F Straub, Asst Surgeon (San Carlos Ariz), is gran leave of absence for one month, to take effect on or about Oct 1895

Capt Louis A La Garde, Asst Surgeon is granted leave of absence one month from the date of his relief from duty at Ft Logan, C

Major Henry M Cronkhite, Surgeon, will report in person to the Pr dent of the Army retiring board to convene at Chicago, Ill , on 8, 1895, at such time as he may designate, for examinatio retirement

The following named officers are detailed to represent the Medica partment of the Army as delegates at the annual meeting of American Public Health Association, to be held at Denver, Co Oct 1 to 4, 1895 Lieut Col Alfred A Woodhull, Deputy Surge General, Major Calvin DeWitt, Surgeon, Major Henry S Tur Surgeon

Major Clarence Ewen, Surgeon, now on sick leave of absence, is reli from further duty at Ft Walla Walla, Washington and ordere Ft Bliss, Texas, for duty relieving Major Blair D Taylor Surgeon Major Taylor, on being thus relieved, is ordered to Ft McPherson, Ga , for duty at that post

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending September 21, 1895

Asst Surgeon M S Guest detached from the "Minnesota," and ordered to the "Vermont"

Surgeon R C Persons, detached from the "Minnesota,", ordered home and placed on waiting orders

Asst Surgeon C M DeValin, detached from the "Vermont," ordered home and granted six months' sick leave

Asst Surgeon C P Bagg, ordered to the "Vermont"

Surgeon D N Bertolette, ordered home and placed on waiting orders when the "Atlanta" goes out of commission

P A Surgeon P H Bryant, detached from the "Baltimore," and ordered to duty on the "Petrel"

P A Surgeon W F Arnold, detached from the "Petrel," and ordered to special duty in investigating the plague in China and cholera in Japan

Marine-Hospital Changes Official list of changes of station and duties of Medical Officers of the U S Marine Hospital Service, for the fifteen days ended September 15, 1895

P A Surgeon C E Banks to proceed from Washington, D C , to Vineyard Haven, Mass , for temporary duty, Sept 11, 1895

P A Surgeon A H Glennan, granted leave of absence for five days, Sept 8, 1895

P A Surgeon C P Wertenbaker, granted leave of absence for three days, Sept 3, 1895

P A Surgeon E R Houghton, granted leave of absence for twenty three days, Sept 12, 1895

Asst Surgeon L E Cofer, granted leave of absence for seven days, Sept 8, 1895

LETTERS RECEIVED

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